



# ANNUAL REPORT 1981



**MASSACHUSETTS  
BAY  
TRANSPORTATION  
AUTHORITY**

EDWARD J. KING, Governor  
JAMES F. CARLIN, Chairman  
JAMES F. O'LEARY, General Manager

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## 1981 ANNUAL REPORT

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## DEDICATION

Edward Dana  
(July 28, 1886–March 27, 1981)



*Edward Dana as General Manager in 1948.*

Commenting on the creation of the MBTA in 1964, Edward Dana, the father of Boston's modern transit system, said: "At long last the state has faced up to the fact that mass transportation is vital to the core city—the New Boston."

For over half a century, such insight and foresight—hallmarks of Ed Dana's work—were major ingredients of the successful growth of transit in Massachusetts. Beginning in 1907, when he joined the Boston Elevated Railway after graduating from Harvard, and then from 1919 to 1959, when he served as General Manager and President of the EL and the Metropolitan Transit Authority, Ed Dana was a driving force behind the Commonwealth's mass transit efforts. Long before gas shortages and highway congestion began driving people to the subways in droves, Ed Dana knew transit would be the lifeline of what he called "the New Boston."

For his extraordinary contributions in paving the way for the progress we are making today, we respectfully and gratefully dedicate this Annual Report to Mr. Edward Dana, the father of the MBTA. None of the accomplishments reported here would have surprised him, nor would they have happened without him.



# **REPORT OF THE BOARD OF DIRECTORS**

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**MASSACHUSETTS  
BAY  
TRANSPORTATION  
AUTHORITY**

Board of Directors  
50 High Street, Boston, Mass 02110

April 1, 1982

TO: His Excellency the Governor, The General Court  
The Secretary of Transportation and the Advisory Board  
to the Massachusetts Bay Transportation Authority

The Board of Directors of the Massachusetts Bay Transportation Authority, in accordance with the requirements of Section 5(h) of Chapter 161A of the General Laws, hereby submits the Authority's Annual Report covering operations for the calendar year 1981. Included in the report is a description of the organization, recommendations for legislation and the comprehensive program for mass transportation prepared by the Executive Office of Transportation and Construction. Also included are departmental reports on accomplishments during 1981.

The net assessable cost of service, interest charged by the State Treasurer and Boston Metropolitan District expenses must be considered by the 79 cities and towns in their settlement with the Commonwealth of their 1981 accounts in November, 1982. The accounts are as follows:

	Without Additional State Aid	With Additional State Aid of \$103,190,952
Net Assessable Cost of Service	\$185,530,733	\$82,339,781
Interest Charged by State Treasurer on Temporary Borrowings (Estimated)	\$ 12,660,219	\$12,660,219
Expenses of Boston Metropolitan District	\$ 16,000	\$ 16,000
Net Cost to Communities	\$198,206,952	\$95,016,000*

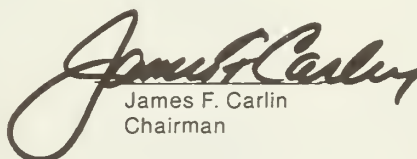
\*House Bill No. 6100, the state budget for Fiscal Year 1983 beginning July 1, 1982, provides additional contract assistance subject to legislative approval and appropriation that will cap assessments to the 79 cities and towns at \$95 million.

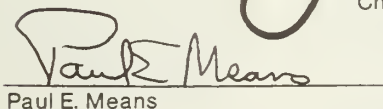
The following statement shows the Authority's comparative net cost of service including all elements of cost for calendar years 1981 and 1980.

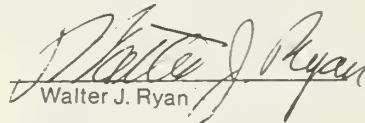
The balance sheet and statement of long-term debt of the Massachusetts Bay Transportation Authority as of December 31, 1981, and the related statements of revenue and cost of service, reimbursed cost of service, and source of disposition of funds for the fiscal year ended December 31, 1981, together with notes relating to these financial statements, are appended to this report.

Respectfully submitted,

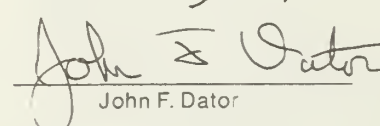
Board of Directors  
Massachusetts Bay Transportation Authority

  
James F. Carlin  
Chairman

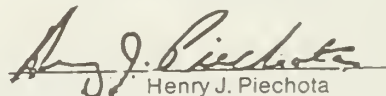
  
Paul E. Means

  
Walter J. Ryan

  
Richard L. Taylor

  
John F. Dator

  
John J. McCarthy

  
Henry J. Piechota

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
COMPARISON OF NET COST OF SERVICE—TWELVE MONTH PERIOD  
CALENDAR YEARS 1981 (ESTIMATED) VS. 1980 (ACTUAL)**

	1981*	1980	Increase or (Decrease)
Income:			
Revenue from Transportation	\$81,811,654.97	\$ 66,197,081.31	\$ 15,614,573.66
Revenue from Other Railway Operations	3,101,327.40	2,650,449.46	450,877.94
Non-Operating Income	17,227,922.60	13,622,873.62	3,605,048.98
Gas & Diesel Tax Reimbursement	517,631.00	478,846.55	38,784.45
Reimbursement from Outside District	1,509,559.58	3,385,982.00	(1,876,422.42)
<b>TOTAL INCOME</b>	<b>104,168,095.55</b>	<b>86,335,232.94</b>	<b>17,832,862.61</b>
Operating Wages and Fringe Benefits:			
Wages	137,873,214.35	142,723,205.21	(4,849,990.86)
Gen. & Adm. Cost Capitalized-Credit	(2,060,840.23)	(2,149,175.90)	88,335.67
M.B.T.A. Pensions	20,588,564.30	21,349,749.00	(761,184.70)
Social Security Taxes	10,383,167.49	9,592,494.91	790,672.58
Workmen's Compensation	3,281,399.11	3,441,115.99	(159,716.88)
Accident and Sickness Insurance	427,970.92	438,415.57	(10,444.65)
Group Life Insurance	909,420.80	694,012.91	215,407.89
Blue Cross-Blue Shield	16,403,968.19	14,403,365.53	2,000,602.66
Unemployment Insurance	786,430.00	178,800.00	607,630.00
Uniform and Work Clothes	532,614.82	587,473.40	(54,858.58)
Fringe Benefits Cost Capitalized-Credit	(7,482,212.84)	(7,588,893.56)	106,680.72
<b>TOTAL OPERATING WAGES &amp; FRINGE BENEFITS</b>	<b>181,643,696.91</b>	<b>183,670,563.06</b>	<b>(2,026,866.15)</b>
Material and Other Items	30,689,514.25	30,783,585.46	(94,071.21)
Injuries and Damages	2,940,879.94	2,666,761.75	274,118.19
Interest on Unfunded Debt	22,868,808.02	16,553,721.41	6,315,086.61
Fuel	23,239,836.73	22,265,512.49	974,324.24
Taxes (Other than included above)	1,008,541.43	881,530.92	127,010.51
Railroad Commuter Subsidy	47,096,949.63	44,870,591.50	2,226,358.13
Local Service Subsidies	1,511,199.92	1,517,912.23	(6,712.31)
Railroad Commuter Unreimbursed Cost	—	2,800,000.00	(2,800,000.00)
<b>TOTAL OPERATING EXPENSES AND TAXES</b>	<b>310,999,426.83</b>	<b>306,010,178.82</b>	<b>4,989,248.01</b>
Fixed Charges:			
Interest on Funded Debt (M.T.A.)	3,637,624.23	3,423,191.58	214,432.65
Interest on Funded Debt (M.B.T.A.)	20,891,292.08	20,047,185.84	844,106.24
Payment on Funded Debt (M.T.A.)	2,537,259.26	2,723,259.28	(186,000.02)
Payment on Funded Debt (M.B.T.A.)	10,685,000.00	10,710,000.00	(25,000.00)
Bond Discount Amortization (M.B.T.A.)	21,150.00	—	21,150.00
Miscellaneous Debits (M.T.A.)	45,988.62	55,999.65	(10,011.03)
Bank Service Charges (M.B.T.A.)	23,870.32	24,000.32	(130.00)
<b>TOTAL FIXED CHARGES</b>	<b>37,842,184.51</b>	<b>36,983,636.67</b>	<b>858,547.84</b>
<b>TOTAL CURRENT EXPENSES</b>	<b>348,841,611.34</b>	<b>342,993,815.49</b>	<b>5,847,795.85</b>
<b>COST OF SERVICE IN EXCESS OF INCOME</b>	<b>244,673,515.79</b>	<b>256,658,582.55</b>	<b>(11,985,066.76)</b>
Less: State and Federal Assistance:			
Chap. 161A of G.L. (Sec. 28)—MTA	3,000,000.00	3,000,000.00	—
Chap. 161A of G.L. (Sec. 28)—MBTA	29,906,496.18	26,524,495.88	3,382,000.30
Chap. 393, Acts of 1979—MBTA (RR)	—	2,245,333.00	(2,245,333.00)
Chap. 329, Acts of 1980—MBTA (RR)	1,546,059.00	2,453,941.00	(907,882.00)
Chap. 351, Acts of 1981—MBTA (RR)	2,935,000.00	—	2,935,000.00
Chap. 49, Acts of 1981—MBTA (RR)	2,120,339.00	—	2,120,339.00
Chap. 351, Acts of 1981—MBTA	—	105,851,000.00	(105,851,000.00)
House Bill No. 1 Pend. Approval—MBTA	96,589,553.45	—	96,589,553.45
Federal Operating Assistance—Sec. 5	26,236,287.00	29,328,419.00	(3,092,132.00)
<b>TOTAL ASSISTANCE</b>	<b>162,333,734.63</b>	<b>169,403,188.88</b>	<b>(7,069,454.25)</b>
<b>NET ASSESSABLE COST OF SERVICE—LOSS</b>	<b>\$82,339,781.16</b>	<b>\$87,255,393.67</b>	<b>(\$4,915,612.51)</b>

(Does not include State Treasury interest charges on BMD expenses.)

\*Assumes a Total Assessment of \$95.00 on (T) District, and passage of proposed act authorizing State Treasurer Borrowings.



# ORGANIZATIONAL CHART

## MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

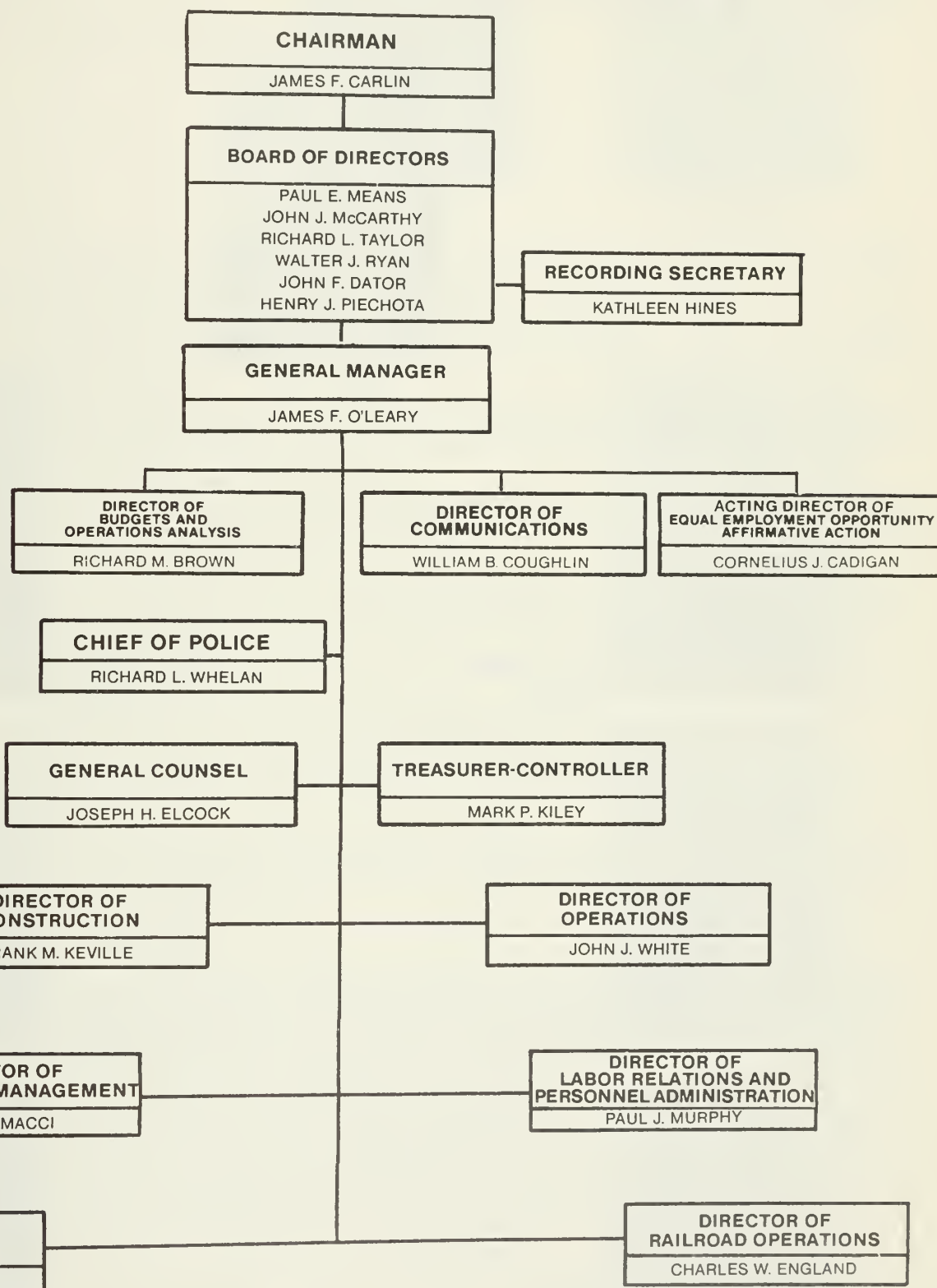


Chart reflects organizational structure as of May, 1982.

# BOARD OF DIRECTORS

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## THE PICTORIAL RECORD



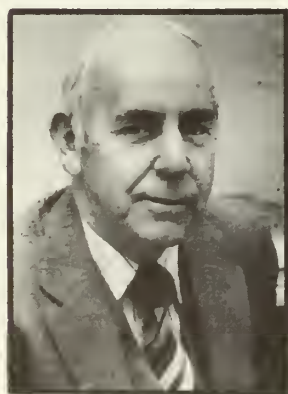
*James F. Carlin  
Chairman*



*Paul E. Means  
Director*



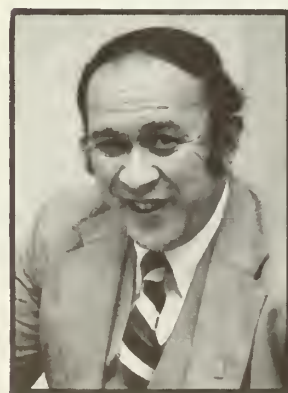
*John J. McCarthy  
Director*



*Walter J. Ryan  
Director*



*Richard L. Taylor  
Director*



*John F. Dator  
Director*



*Henry J. Piechota  
Director*

**MASSACHUSETTS  
BAY  
TRANSPORTATION  
AUTHORITY**

50 High Street, Boston, Mass. 02110



James F. O'Leary  
General Manager



James F. Carlin  
Chairman of the Board of  
Directors

April 26, 1982

In 1981 the Massachusetts Bay Transportation Authority (MBTA) continued the tradition of serving the transportation needs of the citizens of Greater Boston, a tradition that began in 1897 with the opening of Park Street Station, the first underground subway in the United States.

While maintaining tradition, MBTA management initiated significant changes accelerated by the enactment of Chapter 581 of the Acts of 1980, passed by the Legislature and signed into law by Governor Edward J. King.

First, Chapter 581 reorganized the management structure of the MBTA. Two additional Directors, representing communities outside the MBTA district, were appointed to the Board of Directors. The Secretary of Transportation was appointed Chairman of the Board, and a General Manager was hired to oversee the daily operations of the Authority.

Most importantly, Chapter 581 granted management tighter controls over long-standing, inefficient labor practices, with the goal of improving productivity at the MBTA. Management responded aggressively, implementing more changes and innovations in 1981 than had been carried out in any previous year in the MBTA's history.

Some of the management actions, which saved the system over \$50 million in 1981, included:

- The closing of the MBTA's antiquated South Boston Power Station, which will save the Authority approximately \$5 million a year.
- The abolishment of automatic cost-of-living salary adjustments, with annualized savings approaching \$20 million.
- The elimination of 773 positions, with annualized savings approaching \$21 million.
- A 44% reduction in overtime hours, for a savings of \$2.9 million.
- The assignment of overtime on a merit, rather than a seniority basis.
- The reclassification of numerous positions and the assignment of additional job duties to employees.

In 1981 the MBTA gave the region's economy a substantial boost, with over \$1 billion in capital projects, including a major extension of the Red Line to Alewife and the relocation of the Orange Line through Boston's Southwest Corridor.

The signing of a 5-year contract with the Boston and Maine Railroad signaled continued commuter rail service at a stable cost.

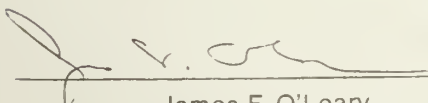
The Authority improved service with the introduction into service of 100 new Orange Line rapid transit vehicles and modifications to the Green Line Light Rail Vehicles fleet. Some vintage PCC Trolleys were restored to original operating condition to provide years more of dedicated service. The Authority became one of the first transit agencies in the nation to take advantage of changes in the federal tax code which permitted it to "sell and leaseback" new trains for a net profit of almost \$2.5 million.

The MBTA Police Department reduced major crime on the system by 12% in 1981, thanks in part to the reinstitution of "Operation Rainbow," which placed undercover police on the vehicles and in the stations. Late in the year, the department hired the first female police officers in MBTA history.

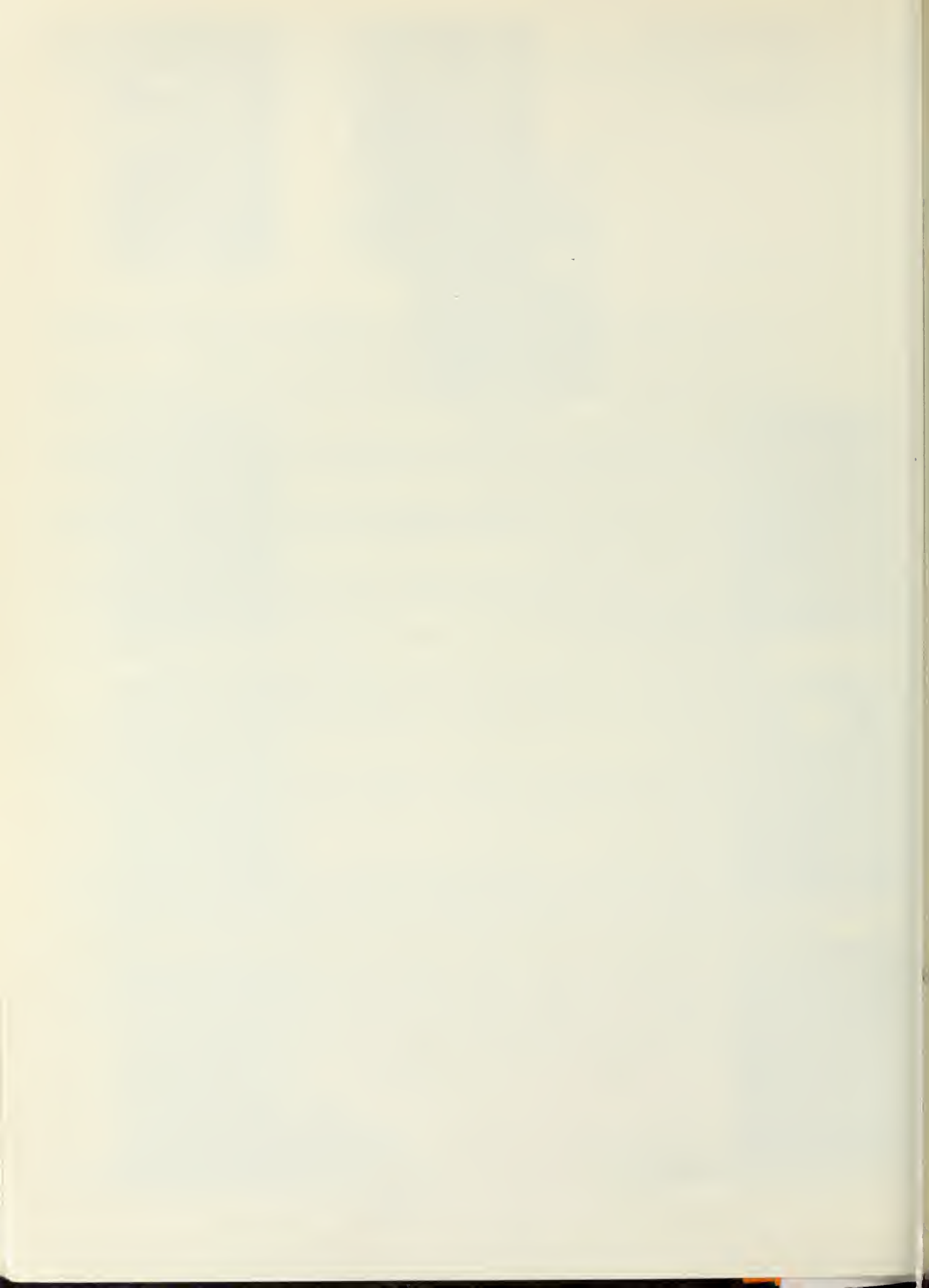
MBTA management is committed to improving on its many accomplishments of the past year. These accomplishments are outlined in detail in the following pages.

The tradition of the past is becoming the promise of the future, a promise that is bright.

Sincerely,

  
James F. O'Leary  
General Manager

  
James F. Carlin  
Chairman of the Board of Directors





# **DEPARTMENTAL REPORTS**

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# EXECUTIVE OFFICE

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## BUDGET OFFICE

The Executive Office consists of the Board of Directors; the Office of the General Manager; the Office of Budgets and Operations Analysis; the Office of Equal Employment Opportunity and Affirmative Action (EEO/AA), and the Communications Directorate.

The Board of Directors and the Office of the General Manager are the policy-making and executive decision-making bodies for the Authority. The Board consists of the Chairman and six directors; the Office of the General Manager includes a Special Assistant to the General Manager and support staff.

The Office of Budget and Operations Analysis reviews, prepares and monitors the Authority's operating budget. As the Authority's key management aid, the budget process ensures that programs are cost-effective, that they are affordable, and that they correspond to the priorities set by the General Manager. This office also assists the General Manager and departments in setting formal standards, goals and objectives for management and service performance. It provides assistance to departments on planning, management, and organization problems; helps them establish performance measures and management reporting systems and ensures that existing control systems, such as the Responsibility Accounting System and the Accounts Payable System are used to full advantage. The office also conducts special analyses of operations and service costs, and has been designated to coordinate the implementation of the Management Rights Legislation, which was upheld by a recent Appeals Court decision.

The most significant events for the Budget area in 1981 were the ability to run the Authority with the funding appropriated to it, and to begin the implementation of Chapter 581 Management Rights. The implementation of Management Rights should significantly reduce the spiraling costs of providing mass transit to the citizens of the greater Boston area.

## EQUAL EMPLOYMENT OPPORTUNITY/ AFFIRMATIVE ACTION

The Office of Equal Employment Opportunity/ Affirmative Action (EEO/AA) is part of the Executive Office and reports directly to the General Manager.

The EEO/AA Office is responsible for implementing Federal, State and local laws and regulations pertaining to equal employment opportunity for minorities and women as individuals and as owners of business enterprises. The Office also monitors Authority personnel recruitment, hiring and consultant selection policies to assure compliance with EEO laws and recommends remedial action in instances of non-compliance when appropriate.

Staff activities include consulting with all Authority departments regarding the implementation of affirmative action policies; educational activities to keep personnel abreast of current laws; liaison activities with community groups and state and Federal offices; identification of minority and female job candidates and businesses; and monitoring of employment and procurement practices of Authority contractors, subcontractors and suppliers □

# COMMUNICATIONS DIRECTORATE

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## PUBLIC AFFAIRS AND INFORMATION

The Communications Directorate's Public Affairs and Information Division, consisting of Consumer Relations, Complaints, Customer Service and Marketing/Information Services, is primarily responsible for providing accurate and timely information to the public and improving and maintaining consumer relations.

A number of substantial service changes, as well as the fare change of August 1, 1981, created the most challenging year ever for this division.

The *Consumer Relations Section* arranged and sponsored forty-one (41) public meetings to deter-

mine public opinion about service and fare changes. It also gave innumerable guided tours to school, church, transportation, and other interested groups.

The *Complaint Section* responded to more than six (6) thousand petitioners opposing service and fare changes. It also handled the normal flow of some 250 weekly telephone and written complaints and 25-75 monthly inquiries forwarded from the Governor and Secretary of Transportation.

Some 350,000 riders telephoned the *Customer Service Center*, which provided them with information about MBTA and Commuter Rail schedules, service delays and diversions, fares, and the pass program.



# PUBLIC AFFAIRS AND INFORMATION



**T SYSTEM MAP**

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

**75¢**

Red Line Dorchester Branch and Mattapan High Speed Line closed for repairs. The brochure shown, as well as flyers and cards were developed as part of a public awareness campaign, and distributed to the communities affected.

MBTA System Map was updated utilizing commercial ads and more detailed traveler information and introduced for public sale at 75¢.

MBTA Traveler Aid Program distributed thousands of bus and train schedules through community outlets.

**DURING RED LINE RECONSTRUCTION, PLEASE BEAR WITH US AND TAKE THE BUS.**



**TAKE A T AID. TRAVELERS AID PROGRAM**


MBTA Bus and Train schedules are available the first 15 days of each schedule change and for area travel service ONLY at most Star Market stores, Boston Public Libraries, and many participating banks, city halls, shopping centers, and colleges.

Schedules are also available at Park St. Station Information Booth and many T stations. Call 722-5215 for information.

Massachusetts Bay Transportation Authority, Travelers Aid Program, Communications Division, 50 High St., Boston, MA.

**T INFORMATION**

EXPRESS BUS STOP CHANGE



Thousands of Information Bulletins pertaining to schedule changes, service disruptions and other topics of interest were developed and distributed to our riders.

A new format wallet card size map of Rapid Transit Lines was developed utilizing larger typeface and graphics.

**RIDE MORE FOR LESS WITH A T PASS**

There are six convenient locations to purchase T Passes:

- 1. 145 North St. Station
- 2. 145 North St. Station
- 3. 145 North St. Station
- 4. 145 North St. Station
- 5. 145 North St. Station
- 6. 145 North St. Station

Call 722-5215 for information.

**10 CITY PT - DUDLEY VIA SOUTHAMPTON ST**

**86 SULLIVAN STA - UNION ST - ALLSTON VIA HARVARD ST**

**101 MALDEN STA & SALEM ST - MEDFORD - SULLIVAN ST - BROADWAY**

WINTER 1982

WEEKDAY	SATURDAY	SUNDAY
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The *Marketing/Information Services Section* designed and disseminated seven (7) million public information aids, including bulletins and posters. As part of the public information program, the staff:

- Disseminated more schedule information than in any previous year, distributing 700,000 schedule cards at various (T) locations and 450 community outlets, including banks, libraries, supermarkets and city and town halls.

Designed (T) Traveler's Aid Programs promotional material.

Redesigned the MBTA system route map, which will be sold in 1982 at various outlets for 75¢.

Produced 300,000 information pieces for the closing of the Dorchester Branch of the Red Line, as well as 150,000 bulletins about schedule and service changes.

Redesigned and printed 50,000 wallet-sized Rapid Transit map cards for 1982 distribution.

Developed a Marketing/Information Aid Outreach Program to secure private funding for production of MBTA traveler information. One financial supporter from the private sector made 30,000 wallet-sized cards available to the public, at no cost to the Authority.

## **MEDIA RELATIONS**

The Media Relations staff handled daily contact with all news outlets: radio, TV, and print. Arranging press conferences and media events, producing press releases, scheduling interviews, and acting as the contact for the scores of local and national journalists reporting on the (T) were its primary functions. It is the Authority's one official outlet for the media to gain information.

## **SALES & MARKETING/PASS PROGRAM**

The MBTA continued to earn its reputation for operating the nation's most innovative and progressive pass program. Monthly pass sales averaged \$8,000, the highest in the program's history. The number of businesses offering passes to their employees reached 610. The number of convenient mail outlets, including 33 banks, 4 post offices and 1 colleges, increased to 48 in 1981 and the Washington Street Station Pass Sales Office was reopened.

In 1981, pass sales generated 28% of the (T)'s total revenue, for a total of \$2.4 million monthly, and over \$20 million annually. The growing ranks of passholders from 156 communities across the Commonwealth continued to demonstrate the program's success. Some 6,500 employees at 65 businesses now receive monthly passes as a low cost fringe benefit.

1981 marked the change in rapid transit and surface fares resulting in the design of new pass options to reflect the change. As of December 1981, the pass options were: Plan (A)—50¢ Local Bus/Streetcar \$18.00; Plan (B)—75¢ Rapid Transit/Streetcar and Mattapan Highspeed Line \$27.00; Plan (C)—\$1.00 Rapid Transit/Streetcar and Express Bus \$36.00; Plan (D)—\$1.25 Rapid Transit/Streetcar, Bus/Express Bus and Zone 1 Commuter Rail \$40.00; Plan (E)—\$1.50 Rapid Transit/Streetcar, Bus/Express and Zones 1 and 2 Commuter Rail \$48.00; and Plan (F)—\$1.75 All MBTA Services and Zones 1, 2 & 3 Commuter Rail \$56.00. Even though an individual pass cost \$9 to \$18 more by year's end, bringing the average pass price from \$20.40 to \$30.60, sales still increased by 8,000.

### **Pass Benefits**

The program utilized flyers, posters, and public address announcements to promote purchase of passes at local banks. Each month 33,000 passes were sold through the banks.

In addition to cost savings, passholders enjoyed a number of other discounts: a 10% discount on auto insurance; a 20% discount on prescription eyeglasses at all Pearle Vision stores in Massachusetts; special discounts at Brands Mart stores; one free guest allowed to ride the system on Sunday (except Commuter Rail) with each passholder; and a special discount for Ringling Brothers and Barnum and Bailey Circus.

In addition, passholders saved on admission prices at:

The Museum of Transportation  
Boston Children's Museum  
John Hancock Observatory  
The Skywalk Observation Deck  
The Museum of Science  
The Boston Tea Party Ship & Museum  
The Whites of Their Eyes, Bunker Hill Pavilion  
The New England Aquarium

The MBTA Pass Program is unique. It offers the (T) a direct, positive link to the business community. Moreover, it is a concrete, substantial effort to do something for the people who make a commitment to use the (T) and for the taxpayers who support it. From an internal management perspective, it provides an efficient method of collecting and accounting for fares. It remains the largest and most successful program of its kind in the country and the most effective marketing tool the Authority has.

**Other Marketing projects** included publicity of the new Blue Line and Massport shuttle bus service for travellers and airport employees, and administration of Music Under Boston, the program which coordinated the performance of 50 musicians a month in major rapid transit stations at no cost to the Authority.

### **MBTA Variable Work Hours Program**

Through new promotional material and ridership data, Sales and Marketing staff encouraged major employers to offer staggered or flexible work hours to their employees. The program was designed to alleviate congestion during A.M. and P.M. rush hours. A new Employers' Guide assisted companies in developing a Variable Work Hours Program. By year's end, 295 companies offered a variable work hours option to over 89,000 of their employees.

### **Senior Citizen & Special Needs Half-Fare Photo I.D. Program**

This office registered and processed 35,000 senior citizens and 9,000 individuals with special

needs for special MBTA Half Fare Photo I.D. cards. This important function was performed at the Senior Citizen and Special Needs Registration Office at the Washington Street Station Concourse and in actually visiting 28 cities and towns in the MBTA district for on-site registration. A new MBTA temporary special needs photo I.D. was introduced with a new application procedure to help eliminate abuses in the Program.

A revised Senior Citizen Half Fare Guide was developed to introduce over 50 establishments that now offer savings to senior citizens with a MBTA senior citizen half fare photo I.D. card. The Half Fare Guide also contains an MBTA map, helpful telephone numbers, and details about various photo I.D. programs.



# OPERATIONS DIRECTORATE

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A significant Operations accomplishment for 1981 involved the complex scheduling, monitoring, and implementation of our summer seven-month Shuttle Bus Replacement Service for the Dorchester Extension of the Red Line Rapid Transit Service. One hundred and nineteen (119) buses were required at peak to shuttle passengers from Ashmont Station to Andrew and North Quincy Stations via Dorchester Avenue during the reconstruction of the road bed.

The financial accomplishment of the Department was the reduction of overtime expenditures in 1981, as compared to 1980; the savings amounted to 2.7 million dollars or approximately a 43% reduction in overtime hours.

Staff members participated in the planning, development, and implementation of a revised fare policy for the Authority, and prepared the four regular sets of quarterly schedules and operator runs, plus prepared many alternative schedules due to rapidly changing budgetary constraints, service requirements, and labor conditions. Staff members also participated in a two-day training/familiarization program with Emergency Medical Technicians from area hospitals and ambulance services.

Operations Directorate implemented a computer system for printing, editing, and pricing of operator runs, to include three (3) rating stations: Quincy, Lynn, and Arborway, as well as replaced, renewed, and/or changed approximately 300 bus stops in the communities serviced.

For 1981, the Authority realized a 21.7% reduction over 1980 in costly surface lines accidents, largely due to intensified and timely investigations by our safety instructors. This amounts to 550 fewer accidents. A system of coding preventable/non-preventable accidents was instituted by this Division in 1981.

As a major increment to the surface lines accident reduction effort within Safety and Training and Transportation, a draft discipline code was completed and forwarded to the Operations and Personnel Directorates for consideration, approval, and implementation.

The Authority accepted delivery of 26 wheelchair-equipped transit buses, and placed an order for 4 more. The Office of Special Needs has developed a plan whereby various modes of accessible transit, i.e.: para-transit, bus and rapid rail will be utilized to provide more comprehensive service to handicapped persons. This plan should be implemented in early 1982.

The RIDE continued to grow with operating expenditures increased by 25% over 1980, and an

additional 10,000 trips were made in 1981.

The closing of the South Boston power generating plant resulted in annual savings in excess of \$5 million. The Maintenance of Way Division performed the following work:

- Completed reconstruction of DRTX and Mattapan High Speed Line.
- Complete rebuild of Reservoir Upper Yard on the Highland Branch.
- Reconstruction of storage tracks and loop track in Codman Yard.
- Installation of new rail and ties on storage tracks in Mattapan Yard.
- Resurfacing of outside portion of Blue Line with resultant removal of DPU imposed speed restrictions.
- Upgrading of track on Segment B on Commonwealth Avenue, permitting this old track to support traffic without speed restrictions.
- On the Orange Line 3,780 crossties and 12,000 of guard timber were installed. New switch timbers were installed under 3 crossovers in Forest Hills Yard.
- Installation of 150# third rail from Haymarket to Dover Street.

In a major effort to prevent track related speed restrictions, a contract was awarded Automation Industries for the services of the Sperry Rail Diagnostic Vehicle. All lines were tested and rail defects uncovered which will allow us to change our defective rails. Operations Directorate also painted twelve stations and initiated graffiti removal teams; installed iron fencing and gates to secure all rapid transit and Green Line Station entrances (13 stations); delamped and disconnected lighting fixtures at 12 passenger stations for energy conservation and upgraded power system on the Orange Line for operation of the new No. 12 cars.

Bartlett Street Garage installed new building for compressor room, new signal compressor, and light, heat and equipment wiring together with wiring for main line air supply. Also, erected bus washer and made revisions to structural steel for the washer. The closing of Arlington Heights and Eagle Street bus garages and the transfer of bus maintenance operations from Arborway to the renovated Bartlett Street facility resulted in a reduction in fuel consumption and improved security.

Another accomplishment was the shutdown of

## OPERATIONS DIRECTORATE: NEW TRANSIT VEHICLES



Orange Line passengers board one of the 100 new rapid transit vehicles delivered and put into service during 1981.



The Ride Program, which made 10,000 more trips in 1981 over 1980, will begin operating in tandem new wheelchair lift buses, delivered in 1981. The Operations Directorate ordered more of the buses which will begin with 1982 Summer Schedules.



ewey Substation, resulting in a savings of \$637,000/ear in power costs and the shutdown of Charlestown eating plant, resulting in a savings of \$200,000. Operations Directorate also completed extensive overhaul of the No. 6 gas turbine generator and instituted an extensive preventive maintenance program on the No. 6 gas turbine and thereby improved reliability greatly.

Operations Directorate placed an order with Flyer dustries for 168 buses and 6 arrived on the property. Approval was received to modernize the PCC picture-window Green Line vehicles and for the continuation of the PCC Rehabilitation Program.

We received and put in service new Blue Line and 10 Orange Line rapid transit vehicles, as well as continued our Bluebird cab signal modifications with 54 cars out of 88 being certified for ATO operation, and we continued the Red Line Car

Modification Program and ATC equipment installation of the bluebirds.

Under chapter 581 Implementation of Management Rights, significant progress was achieved for increased efficiencies relative to:

- Part-time help.
- Overtime restrictions.
- Overall productivity gains as a result of personnel work rule changes.
- Continued the preparation of specifications for contracting our work.

A goal of 10% reduction in overall energy use was set for 1981. As of the end of November 1981, energy use had declined by 12% compared with the base period prior to start of energy conservation efforts. This 12% reduction is equivalent to a savings of 4.6 million gallons of No. 2 oil. □

## RAILROAD OPERATIONS DIRECTORATE

In order to meet budget requirements, Railroad Operations' management made major alterations in several areas, and only as a last resort were fare increases and service reductions implemented.

Prior to making any adjustments in service or fares, a series of cost-reducing measures were implemented. In spite of these actions, service reductions and fare increases were reluctantly implemented with the guidance and consultation of the MBTA Advisory Board Commuter Rail Subcommittee:

- 9.5% service reduction on February 1, 1981, including termination of all Woburn service and general reduced service North and South
- Fare increase on March 15, 1981.

A critical shortage of passenger coaches, caused by delays in receiving Federal funds for the rebuilding and conversion of our Budd Rail Diesel Cars (B.R.D.C.'s), and the necessity to return 45 of the coaches which were being leased from the Toronto Transit Operating Authority (TOTOA), resulted in decreased capacity and a corresponding revenue shortfall. It became necessary to take the following additional actions:

North Side service reduction, approximately 10% on May 3, 1981, 45 TOTOA cars were removed from service in preparation for return to Canada.

Fares were again raised on July 15, 1981, in

in order to generate sufficient revenue to retain some late evening service on each of the 4 major routes from North Station. Public hearings testimony indicated a strong preference for increased fares over any further cuts in service.

Although the average fare per trip was increased from about \$1.05 to \$1.65 and service was reduced by more than 20% systemwide, Railroad Operations has been successful in retaining nearly the same number of passengers as in 1980 (-2%). Ridership from November and December, 1981, showed healthy increases over the same months of 1980.

This ability to retain our riders can be attributed to significant improvement in on-time performance, primarily due to the MBTA's investment in new locomotives, coaches, and track improvements. Lines into North Station (B&M dispatched) averaged nearly 95% on-time. South Side lines (Amtrak and Conrail dispatched) averaged nearly 90% on-time. Exceptions were isolated cases involving primarily MBTA and Amtrak capital projects. This on-time performance is the best ratio of on-time reliability ever recorded on the commuter rail system, for as long as the MBTA has been keeping such records. In addition, the percentage of rush-hour trains operating with their programmed "full-consist" has been averaging near 95% both North and South locations. This does not indicate that we have enough decent, reliable coaches to handle the number of passengers on the train; it simply means that of the limited vehicles we have, the number of cars we have assigned to

the train are being provided. The number of passengers per train has increased by nearly 50%.

The delivery of the 32 rebuilt Budd RDC cars, the first of which is expected to be delivered in April, 1982, should greatly alleviate the overcrowding, and make possible further expansion of ridership.

The Monthly Passes for Commuter Rail were completely integrated into the MBTA fare structure on September 1, 1981, providing an incentive for increased use of the public transportation system.

The first coordinated railroad-bus service planning effort was initiated between Railroad Operations and the Service Planning Division of the Operations Directorate. This North Shore service plan will be implemented in mid-1982.

Reconstruction of the Gloucester Branch track has been largely completed as has rebuilding of significant portions of the Fitchburg Line. New rail has been installed on portions of the Gloucester Branch, Fitchburg Line, and the New Hampshire Line. Maintenance projects have been carried out on the Eastern Route and the Merrimack Valley Line (Western Route).

Amtrak forces completed nearly all the track work between Boston and the Rhode Island State Line, including the new welded rail, concrete ties, and new or rebuilt interlockings at Canton Junction, Mansfield and Attleboro.

Capital Grant applications were filed and funds allocated for Phase I of the CRIP IV Construction Program including:

- Engineering for a new bridge over the Mystic River to replace Draw Bridge #7.
- Construction of a new South Side Maintenance Facility.
- The purchase of new rail for the Eastern Route (Boston-Beverly), and the Franklin Branch (Readville-Franklin).

A contract was awarded for new station platforms along the Boston & Albany Main Line to Framingham and construction of a new park-and-ride station at West Natick. A new lay-over facility was completed at Ipswich and ready for final testing at year-end.

The most major accomplishment of the year was the successful completion of negotiations with the Boston & Maine for a new 5-year operating agreement. The new agreement is the result of intensive efforts throughout 1981, including the analysis of other operating contracts for rail commuter service in major cities throughout North America. It provides for greater accountability to the MBTA, and real incentives for good management and efficiency by the Boston & Maine.

## **TREASURER CONTROLLER'S DEPARTMENT**

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This department worked very closely with the Operations Directorate in analyzing, projecting and implementing the systemwide fare increase. Total revenue for 1982 increased more than twelve million dollars as a result of those changes.

In the Revenue Collection Section a management/union taskforce worked jointly to reduce the 1981 operating costs of this division. As a result, the work of this group will remain with the Treasurer-Controller's Department and will not be subcontracted out.

The Capital Program Control Section continued to improve the management efficiency of requisitioning for UMTA reimbursements through utilization of Letter of Credit Agreements. The Capital Audit Section, although continuing to be plagued by vacancies, continues to perform high quality pre-audits and final audits of consulting and construction contracts.

The Data Processing staff has prepared specifications for upgrading of the computer in early 1982

and this new year should see significant operation and productivity improvements as a result of the equipment's increased capacity.

The Revenue Auditing Section has taken up the added responsibilities of administering the Prepared Pass Sales Office at the Washington Street Concourse. At present, this office is selling over 10,000 passes a month.

In October 1981, the Authority, through this office issued \$45,000,000 in long-term bonds. The proceeds from this issue will be utilized to finance various construction projects.

In late December, 1981, this office completed sophisticated financial transaction involving the sale and leaseback, for federal income tax purposes only, of the one hundred new Orange Line Cars. This transaction will ultimately lead to a cash inflow to the Authority of approximately three million dollars. This deal has generally been regarded as the best in the transit industry in 1981.



# CONSTRUCTION DIRECTORATE

## FUNDING & GRANT INFORMATION

In 1981, the Federal Urban Mass Transportation Administration awarded the Authority nearly \$277.2 million in capital grant funds. This enabled the Construction Directorate to make impressive strides toward achieving its goals.

The largest single grant award of \$190 million was for the Southwest Corridor Project. The remaining \$77.2 million was earmarked for the Authority's system-wide Improvements Program for such projects as: Power and Track Improvements; Station Modernization and Tunnel Rehabilitation/Ventilation. Also included is the upgrade of bus repair facilities and the purchase of 300 new buses.

The Authority presented new legislation which enacted a \$76.5 million Transportation Bond Package for additional local share bond authorizations. These funds are programmed to support the continuation of our capital expansion and modernization programs until mid-1983 and generate \$371 million in additional transit construction work in the metropolitan area.

During 1981, twenty-five (25) construction contracts were awarded totaling nearly \$150 million.

Contract construction work in progress throughout 1981 totaled \$588 million. Seven hundred thirty-two (732) material requisitions were processed, totaling \$39 million. This is evidence to support the fact that the Authority is a major contributor to the construction field in the greater metropolitan area.

The Red Line Northwest Extension Project and the Southwest Corridor Project are part of a broad and continuing effort by the Authority to modernize and expand its rail transit system, which is the latest in North America. These two projects are massive in size and technological complexity and, upon completion, are expected to not only provide much-needed transportation to strategic areas, but also enhance the overall desirability of the environment surrounding these two transit lines. Based on current estimates, these two projects will be in the magnitude of \$1.4 billion dollars, approximately eight-fifty percent (85%) of which will be provided by the Federal Government through UMTA and the Department of Transportation.

## NORTHWEST EXTENSION PROJECT

The 3.2 miles of Red Line Northwest Extension Project made significant progress during 1981. The two tunnel contracts from Harvard Square to Porter Square and from Porter Square to Davis Square were substantially completed. Approximately \$47.3 million in contracts were awarded, which concluded

most of the major contracts for this project. Physical progress has been exceptional and is estimated at 43 percent, with 77 percent of its \$574 million total project budget committed.

A cost benefit analysis is being undertaken in order to more efficiently make use of available funds on the Red Line Northwest Extension. This concept will synthesize in a more proficient and effectual system.

Achievements on the Red Line Extension's major project elements are estimated as follows:

### STATIONS:

Harvard Square	49%
Porter Square	59%
Davis Square	62%
Alewife	18%

### TUNNELS:

Harvard/Porter	85%
Porter/Davis	100%
Davis/Harvey	45%
Harvey/Alewife	1%

## SOUTHWEST CORRIDOR PROJECT

Another major construction project in the works is the complete relocation of the Orange Line south of Essex Station to a railroad ROW west of the existing elevated line. This endeavor, known as the Southwest Corridor Project, will be approximately 4.7 miles long with eight (8) new stations. The much improved rapid transit line will share the right-of-way with long-distance commuter rail services, which will also use three of the eight stations.

As part of the Southwest Corridor Project plan, it has been determined to demolish the present elevated rail structure when the new line is completed. This action will create a climate in the community conducive to new and enterprising development.

A cost benefit analysis similar to the one being implemented on the Northwest Extension is going to be facilitated on the Southwest Corridor.

During 1981, Notices to Proceed were given for the first line contracts in each section of the Southwest Corridor Project. The value of these three contracts totaled \$104 million. Physical progress is estimated at 13 percent, with 24 percent of its \$783 million total project budget committed. Progress of the major project elements are estimated as follows:

Engineering and Design	85%
Demolition	92%
ROW Construction	7.6%
Utility Relocation	73%

Approximately \$300 million of additional construction contract awards are planned for this project for 1982.

## **SYSTEMWIDE IMPROVEMENTS**

The ongoing Systemwide Improvements Program realized a growth during the year with the awarding of 16 contracts totaling \$42 million. This represented a milestone in the efforts of this project and culminated in the upgrading of the Cambridge/Dorchester line, Reconstruction of the Everett Facilities and Power Improvements. The largest amounts of the awards went for these aforementioned accomplishments. Also of significance was the completion of \$11 million worth of contracts. These were: Gloucester Branch Track Rehabilitation; Bartlett Street Garage Immediate Needs Renovation; Commonwealth Avenue Track Improvements; and the Reconstruction of the Heath Street Loop.

The track improvements to Commonwealth Avenue were quite extensive, culminating in the complete rebuilding of four miles of tracks for the entire length.

On Heath Street, the original single loop design was altered to a double loop configuration, allowing more flexibility for trolleys in their day-to-day travel needs.

Bartlett Street Bus Garage underwent the first phase of extensive renovations which will ultimately be completed in late 1982. These improvements include new electrical and heating systems and a complete re-roofing of the facility.

On the North Shore, Gloucester Branch Track Rehabilitation project, undertaken by Systemwide Improvements, included the rebuilding of 15 miles of track. Elements of this project included new continuous welded rail, tie replacement, new ballast and drainage, and some minor bridge repair.

Tunnel rehabilitation and ventilation shaft construction has progressed steadily over 1981. The largest single grant for work of this nature was received in September of 1981, amounting to \$7,153,000, which is 80 percent of a total cost of \$8,942,000. To date, the MBTA has committed \$19,220,000 on this program.

These aforementioned tunnel and ventilation improvements will result in a more desirable transit environment for the riding public.

## **SOUTH STATION PROJECT**

On the South Station Project a great deal was accomplished with a major amount of the design work being completed and agreements being negotiated with participating agencies to permit as much as \$50 million of work to be awarded during 1982. At completion, South Station will be a multi-modal transportation center for the MBTA commuter and Amtrak intercity trains, as well as MBTA and intercity buses. The construction of this terminal should provide the catalyst for the total upgrading of the Boston business district.

## **DORCHESTER RAPID TRANSIT EXTENSION**

On the Red Line, the Dorchester Rapid Transit Extension (DRTX) neared completion, being opened for operation on January 16, 1982. Whereas bus service had to be implemented to move the 20,000 daily riders usually on the transit line, this became the largest surface bus replacement service provided by the Authority. Work included station modification and rehabilitation to Ashmont and Shawmut Stations. Track improvements and tunnel work was simultaneously undertaken between Fields Corner and Ashmont Stations. This effort took approximately six months to complete.

## **CASC SYSTEM**

The Cost and Schedule Control System (CASC) which is the system that effectively controls costs and maintains construction schedules, has put in operation five of its subsystems and has three more to go. Each subsystem is designed to support and expedite the daily document-processing function of individual construction projects. This system, designed under Construction Directorate supervision, has proved to be an effective tool in gathering and disseminating management information.



# 1981 CONSTRUCTION CONTRACTS

Award Date	Description	Contractor	Award Amount
January '81	Section II, Line Constr. Part A— Station 2121+00 to Station 2152+00 Southwest Corr., Boston	JV: J.F. White Constr. Co./ Morrison-Knudsen Co., Inc./ Mergentime Corp.	\$ 32,320,780.00
January '81	New Central Heating Plant, Everett Maint. Facility, Everett	W.T. Rich Company, Inc.	1,119,000.00
February '81	Electric Layover Facility	JV: L.K. Comstock, Manzi Elec- trical, L & L Electrical Service, Inc.	542,000.00
February '81	Sitework, Everett Maint. Facilities, Everett	G. Conway, Inc.	737,361.00
February '81	Southwest Corridor Project Section III, Line Construction, Part A, Boston	JV: Salah & Pecci Constr. Co., Inc./Salah & Pecci Leasing Co./Truman Construction Co., Inc.	20,999,863.00
April '81	Emergency Repairs to Pier No. 13, Green Line, North Station to Lechmere, Cambridge	Rich Construction Corp.	33,965.00
April '81	Red Line Rehab. Fields Corner to Ashmont Station Boston	The Modern Continental Con- struction Co., Inc.	2,532,700.00
June '81	Signaling & Comm., Harvard to Alewife Ext. Cambridge/ Somer- ville/Arlington	General Railway Signal Company	14,222,648.00
June '81	Red Line Improvements, Mattapan to Andrew Portal, Boston and Milton	J.F. White Contracting Co., Inc.	8,576,360.00
June '81	South Cove Tunnel Park, Boston	T Equipment Contracting	246,890.00
July '81	Red Line, VHF to UHF Radio Conversion, Braintree to Harvard Square Station	Fischbach & Moore, Inc.	4,568,000.00
August '81	South Cove Station Finishes, Boston	Patrick F. Walsh & Sons, Inc.	6,001,500.00
August '81	Additional Site & Facility Constr., Braintree Station & Facility, Braintree	Rich Construction Corp.	154,548.00
August '81	Ashmont Platform Lengthening & Station Modernization, Red Line, Boston	The Modern Continental Construction Co., Inc.	\$2,977,370.00
August '81	Erect Buildings, Furnish & Install Misc. Materials for Substations 3N, 19N, 22N & 39, Metropolitan Boston Area	J.F. White Contracting Co., Inc.	8,375,500.00
September '81	Tunnel Harvey St. to Alewife Station, Cambridge	Perini Corporation	5,442,131.00
September '81	Replacement of Overhead Garage Doors, Bus Garages in Boston, Quincy & Medford	Overhead Door Co. of Boston, Division of Door Engineering Co., Inc.	170,550.00
September '81	Renovation to Shawmut Station Red Line, Boston	Rich Construction Corp.	647,548.00

<b>Award Date</b>	<b>Description</b>	<b>Contractor</b>	<b>Award Amount</b>
October '81	New Addition & Renovation Bus Overhaul Shop, Everett Maint. Facilities, Everett	Peabody Construction Co., Inc.	9,007,135.00
October '81	Removal of Installation of Bus Washers At Salem St. & Albany St. Garages, Medford	A.J. Robicheau Constr. Co., Inc.	186,356.00
October '81	Renovations to Electrical & Heating Systems, Reroofing Bartlett Street Garage, Boston	W.T. Rich Company, Inc.	1,309,000.00
October '81	Station Improvements, Boston & Albany Main Line, Newton, Wellesley & Natick	JV: Reynolds Bros., Inc./ Reynolds Equip. Corp.	1,491,500.50
October '81	Harvard Square to Davis Square Tunnel Finish Work & Shaft Structures, Somerville/Cambridge	Perini Corporation	14,804,960.00
November '81	Repaving of Bus Loop, Broadway to Park Avenue, Revere	Metropolitan Signal Corp.	25,000.00
December '81	(Part A and Part B) Floating Slabs & Trackwork, Harvard Sq. to Alewife, Cambridge/Somerville/Arlington	Perini Corporation	12,826,700.00
		<b>TOTAL AWARD AMOUNT</b>	<b>\$149,319,565.50</b>

## 1981 FEDERAL GRANTS

Project Description	Federal Share	Local Share	Total
<b>UMTA SECTION 3 CAPITAL GRANTS</b>			
Everett Maintenance Facility — Amendment 3	\$ 2,185,252	\$ 546,312	\$ 2,731,569
Track Improvements — Amendment 3	13,383,200	3,345,800	16,729,000
37 Transit Buses — Amendment 1	4,814,748	1,203,687	6,018,435
South Quincy R/T Station — Amendment 2	2,907,023	726,756	3,633,779
Station Mod III — Amendment 2	9,271,944	2,317,986	11,589,930
Charlestown Bus Garage — Amendment 3	3,594,060	898,515	4,492,575
Power Improvements — Amendment 7	10,025,400	2,506,350	12,531,750
Tunnel Rehab — Amendment 2	7,153,808	1,788,452	8,942,260
Modernization of Red Line Cars — Amendment 1	5,202,052	1,300,513	6,502,565
Plant Improvements — Amendment 2	4,700,000	1,175,000	5,875,000
South Station R/T Station — Amendment 2	3,000,000	750,000	3,750,000
Kendall R/T Station — Amendment 2	4,999,999	1,250,000	6,249,999
CRIP Phase IV	5,762,516	1,440,629	7,203,145
<b>SUBTOTALS</b>	<b>77,000,002</b>	<b>19,250,000</b>	<b>96,250,002</b>

### INTERSTATE TRANSFER GRANTS (Section 23)

Orange Line Relocation — Amendment 4	190,000,000	33,529,412	223,529,412
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### SECTION 5 CAPITAL GRANT

36 Transit Buses	7,618,062	1,904,515	9,522,577
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### SECTION 5 OPERATING ASSISTANCE

Operating Assistance Yr. 1980	22,890,712	232,329,583	255,220,295
Operating Rail Assistance Yr. 1980	6,437,707	24,596,119	31,033,826
<b>SUBTOTALS</b>	<b>29,328,419</b>	<b>256,925,702</b>	<b>286,254,121</b>

### UMTA TECHNICAL STUDIES GRANT

Lock Chamber Study	215,766		215,766
Emergency Power Supply	77,000		77,000
Project Development Technical Study	2,023,000	357,000	2,380,000
John Egg Resilient Fasteners Test Program	249,659		249,659
<b>SUBTOTALS</b>	<b>2,565,425</b>	<b>357,000</b>	<b>2,922,425</b>

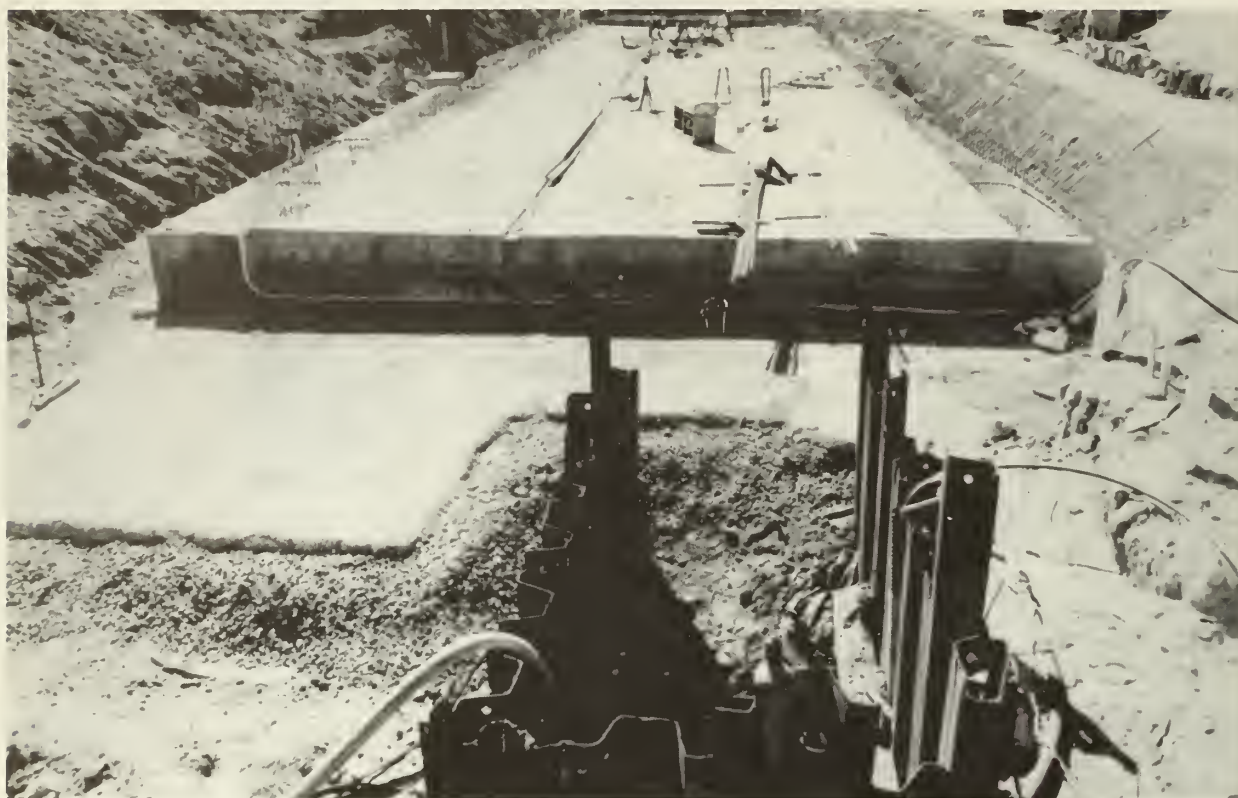
### UMTA MANAGERIAL GRANT

Training Grants	20,000	9,016	29,016
<b>TOTALS</b>	<b>\$306,531,911</b>	<b>\$311,975,645</b>	<b>\$618,507,556</b>



# CONSTRUCTION PROJECTS

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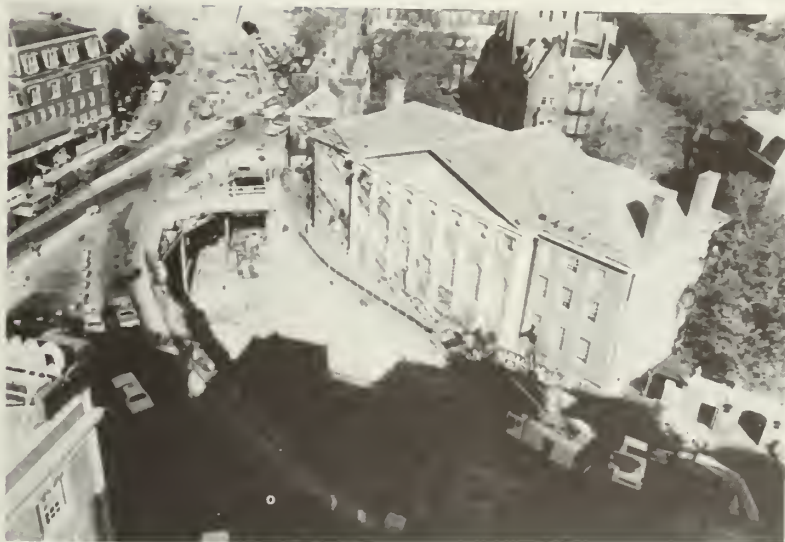
Southwest Corridor Project looking south. Note pilings and dimensions of concrete slab.



View of concrete slab facing north on Southwest Corridor Project



Trainroom—Stripping North Service Area Walls—Red Line Northwest Extension



Aerial view of Harvard Square illustrating slurry wall construction.



Underground of Harvard Station illustrating supports holding up street above construction.



# POLICE DEPARTMENT

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The MBTA Police Department was established to protect the lives and safety of MBTA patrons, MBTA employees, and the public in general. The department is also charged with the responsibility of protecting the property of the Authority from vandalism and wanton and malicious destruction. Protection of revenue throughout the system is carried out on a day-to-day basis. In the process of accomplishing these objectives, the laws of the Commonwealth are enforced and apprehended offenders are prosecuted.

The year was a progressive one for the MBTA Police Department. Through its new innovative program, "Management by Objectives", and under the direction of Chief Richard L. Whelan, new heights of information management and productivity were achieved.

## RECORD-KEEPING

Under its new management program a new computer system was developed and implemented which insures proper record-keeping as mandated by law. In addition, the department initiated a new procedure with the State Police whereby our officers enter all outstanding MBTA warrants into their teletype system. Now, if a person who is wanted for a crime on the MBTA is stopped by any police officer in the state, a routine check will disclose that information and he will be arrested and held for court action.

## VICARIOUS LIABILITY

In order to protect the officers, the Authority, and the taxpayers, the Department developed special training programs to provide necessary new instruction in advanced police sciences.

## PRODUCTIVITY

Better utilization of available officers through effective re-assignment practices to areas of critical need and a reduction in overtime pay and delays were attained through the new management program. During 1981, the Police Department documented 14,576 "Station Checks". These patrols increased police visibility in the subways, deterred criminal activity, and enhanced the public's perception of the MBTA as a safe public transportation network.

The Police Department initiated a new booking procedure for arresting officers to free up time for more productive work. The new procedure puts the officers back in service and available for calls while the booking process is carried out by our desk sergeant. It also prevented the Authority from having to pay overtime when officers were delayed beyond their normal shift due to delays in the operations of

other agencies. Based on the number of arrests made in 1981, the Police Department saved approximately 1,395 man-hours.

A control station for the Honeywell alarm system was installed in the police dispatcher's office. This system protects selected MBTA property against intruders and fire, and reduces the time required from first warning to ultimate response.

## OUTSIDE FUNDING

The Police Department initiated special outreach efforts to identify and secure outside funding sources for the procurement of new equipment to improve productivity and to effectively manage and utilize information systems. Our success in this area has allowed us to bring new equipment on line which will maximize the productivity of individuals and decrease the amount of time that was once expended while receiving technical assistance from other agencies.

Among the new equipment received is an intoxilyzer which was necessitated by a change in the law which requires the Police Department to administer a breathalyzer test to any person who requests same after being picked up for protective custody (drunk), and to produce court evidence in cases involving a violation of motor vehicle law.

A computer data terminal and high-speed printer was delivered to the Police Department which will provide a direct link between the MBTA Police, the Mass. State Police, the Registry of Motor Vehicles, the F.B.I. National Crime Information Center, and other law enforcement agencies.

An Ident-I-Kit is now being operated by two of the detectives who are certified in its use. Also, safety holsters have been ordered which will protect a police officer from being accidentally disarmed during a struggle.

Video-tape recording equipment has been delivered which will allow the department to design public safety programs specifically for the transit environment. It will also be utilized in presenting in-service training programs and represents an effective tool for detectives gathering evidence in the surveillance of criminal activity.

The Police Department placed its first "Patrol Wagon" on line and it has proven to be very effective in the handling of prisoners. In the past, officers in regular patrol cars were subject to physical assault from violent prisoners. The wagon protects the officers and is itself not susceptible to damage as in the past when offenders kicked the windows out of cruisers.



The Police Department, in an effort to address the lack of women on the force, enlisted the aid of the Suffolk County District Attorney as an outside source of funding. As a result of these efforts, the Police Department hired its first two women officers and reinstituted the undercover/decoy program, RAINBOW II. In addition to the RAINBOW II program, the Police Department worked closely with the Massachusetts Retailers Association, in providing police coverage in the subway system during the holiday season. The success of these efforts was demonstrated by a decrease in criminal activity on the MBTA.

## **COMMUNITY SERVICES**

A crime prevention program was initiated by the community services officer, which resulted in the distribution of 15,000 pamphlets and was presented in more than 65 locations to over 4,000 people. Media coverage was also provided on two major T.V. and radio stations.

## **INVESTIGATION**

The Department formed an Audit Investigation team whose purpose is to investigate the loss of MBTA revenue and/or materials. Their efforts resulted in numerous arrests for revenue theft and other fraudulent activities. Under this new division, an agreement was reached between the Authority and Local 589, relative to stricter enforcement of suspension procedures for employees apprehended for "improper fare collection".

## **LEGISLATION**

The Department submitted requests for legislation which would give the police the legal tools to help make the MBTA a better transit system. Two bills were passed by the Great and General Court and signed into law by Governor King. In the first instance, MBTA Police were granted the right to carry citation books to process offenders of motor vehicle laws. The second piece of legislation is extremely valuable in that it makes it unlawful to drink alcoholic beverages on MBTA vehicles or property. This will be useful in controlling the crowds traveling to attend rock

shows and other large gatherings where the consumption of alcoholic beverages creates an atmosphere where rowdiness, vandalism, and assaults have occurred. In 1981, this type of vandalism was reduced by approximately 95%.

## **VANDALISM**

In order to reduce vandalism to MBTA property and rolling-stock, the Department enlisted the cooperation of local police departments and directed our patrols to pay special attention to those areas identified as experiencing a high incidence of vandalism and/or missiling.

The Safety Department has compiled statistics that indicate that incidents of vandalism and missiles have been reduced in 1981 compared to 1980. Incidents on the Red Line have been reduced by 45%; the Orange Line by 43%; the Blue Line by 22%; streetcars by 39%; and on the bus lines by 29%.

## **CRIMINAL ACTIVITY**

In 1981 the Police Department, through the judicious management of its resources, was able to reduce the number of serious crimes on the MBTA to the point where our annual Crime Index is now 2,908. In 1980, the Crime Index for the department was 3,304. This represents an over-all reduction of 12% in major crime and demonstrates that the Police Department is making significant progress in achieving its goals through positive programs and effective management.

## **CONCLUSION**

The Police Department, under its new management program, significantly reduced the number of serious crimes on the MBTA. This new program also developed productive work practices, modernized equipment, effectively managed time, manpower, and information resources as well as maximized police visibility throughout the MBTA system. These objectives have all been met while operating within the limitations of the budget approved for the Police Department in 1981. □

# MATERIALS DEPARTMENT

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During the year 1981 the Materials Directorate achieved the following accomplishments:

- Successfully fulfilled our mission to provide materials, supplies and equipment to using departments in a timely fashion with a 25% reduction in buyer personnel within the prescribed purchasing procedures.
- Increased the number of items for which we issue annual contracts by 10%.
- Implemented the printing of computerized purchase orders at Everett thereby reducing the time it takes to get items ordered from vendors and instituted programs to monitor flow of procurements.
- Assisted Accounts Payable in trying to get payments of overdue invoices to vendors.
- Completed the expansion of the Everett Material Distribution Center to ensure adequate control of the approximately \$5 million worth of component parts for the new Orange and Blue Line cars.
- Award of contract for rebuild and conversion of 32 Rail Diesel Cars.
- Completion of contracts with Pullman Standard and Illinois Central Gulf R.R., with exception of warranty portion.
- Receipt of last #12 Orange Line cars completing delivery of all 190 new cars (70 Blue Line; 120 Orange Line).
- Alternate source of savings of \$368,000 on Light Rail Vehicles.
- Large purchases 1981:
  - Rubbish Removal
  - No. 2 Heating Oil
  - Escalator Maintenance
  - Elevator Maintenance
- Purchase and delivery of all track materials required for the rebuilding of the Dorchester Rapid Transit Extension and the Mattapan High Speed Trolley Line.
- Purchase of 168 City Transit Buses.
- Purchase of a Wheel Turning Lathe for Everett Shops.
- Purchase of 12 D.C. Circuit Breakers for Main Sub-Station at 45 High Street.
- Purchase of a Supervisory and Indication System for (6) New Sub-Stations with a Master Station.
- Purchase of (7) Window Display Truck Vans for use in Engineering and Maintenance Directorate.
- Assumed the responsibility and control of the Garage Stockrooms.
- Inventoried and organized all carhouse stockrooms with the exception of Orient Heights.
- Inventoried and relocated most of the materials for the Cambridge-Dorchester Rebuild Program.
- Implemented an employee training program within the Materials Directorate.

## ELEVATOR MAINTENANCE

As a result of competitive bids, the Authority was able to realize a savings of approximately \$22,000 per year (approximately \$110,000 over a 5-year contract).



# PERSONNEL DIRECTORATE

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## LABOR RELATIONS SECTION

One of the single most important events in labor-management relations at the MBTA occurred in 1981 with the issuance of the First Circuit Court of Appeals decision upholding the constitutionality of the so-called inherent Management's Rights section of Chapter 581 of the Acts of 1980. Since that decision, the Labor Relations Section has worked with the various operating departments of the Authority to bring about many changes of inefficient and burdensome work rules. Some of the changes implemented include elimination of the second "Guard" on Rapid Transit trains, revamping the procedure for assigning many employees into more productive shifts and locations, as well as the elimination of many restrictive work practices previously insisted on by employee organizations.

In response to Section 15 of Chapter 581 of the Acts of 1980, this section participated in determining Basic Standards of Productivity and Conduct for MBTA employees, despite a notable lack of cooperation from most of the major Unions. As a result, and in order to comply as closely as possible with the mandate of the Legislature, general Standards of Productivity applicable across a broad spectra of union classifications in various Authority activities, and a general Code of Performance applicable to all Authority employees, regardless of classification, were developed and submitted to the Legislature.

Earlier in the year, the Labor Relations Section negotiated an amendment to the Authority's pension agreement covering most employees on the property, which provided for the elimination of overtime payments from the definition of compensation for purposes of determining pension benefits.

This section negotiated two (2) collective bargaining agreements during the year, one with the Starters and Inspectors Association, which provided for a one-year wage freeze, and the other with the Alliance, an employee organization representing the Authority's Foremen, which provided for an improvement in benefits above the level these employees had received prior to their becoming organized. Several other bargaining units have proceeded to mediation where an impasse has been declared and are now proceeding to interest mediation. Negotiations with the Boston Carmen's Union, the largest employee organization at the Authority, is currently underway.

In summary, this section provided on a day-to-day basis the necessary advice, guidance and assistance to managers and supervisors throughout the Authority concerning various labor relations matters, while

maintaining the responsibility for determining the proper implementation of the collective bargaining agreements on an ongoing basis with a view towards efficiency of operations, the prevention of grievances and the forestalling of more serious conflicts.

## PERSONNEL SERVICES SECTION

During 1981 this section conducted a number of wage and fringe benefit surveys to gather data for contract negotiations. Numerous exhibits and contract cost analyses were prepared in providing extensive support to the Labor Relations Section in the area of contract negotiations and in a number of contract arbitrations for the Authority.

Requests for Proposals (RFPs) were solicited for the implementation phase of the Personnel Management Information System (PMIS). The PMIS selection committee, in accordance with Authority policy, met and selected the most qualified firm for the contract. However, the contract which was negotiated in March 1981 has not been awarded. It is anticipated that an award will be made in 1982.

The Personnel Directorate, in conjunction with the EEO/AA Office, has requested that the DOT, OCR section, to rule on the award of additional funds for expanded use of the system in the area of EEO/AA related functions (skills bank and inventory enhancement, description data, performance data and minority and female utilization projections).

Training activity in 1981 included six sessions of the Basic Orientation for Supervisors course, attended by 45 persons. In addition, there were four sessions of the MBTA Management Institute, completed by 46 men and women.

This directorate also worked with Harold Russell Associates (the latter under an UMTA Grant) in developing programs for transit properties which will assist handicapped persons to obtain transit jobs.

In other educational activity, we sponsored five MBTA managers for UMTA Fellowships, enabling them to attend Northeastern University's Urban Mass Transit Management Seminars. Although the Employee Educational Assistance Plan was not operational during the year, educational counseling and/or guidance was provided to several (T) employees.

The MBTA Employees' Association continued to provide a wide range of activities and programs during the year. Assistance was also provided in the United Way and Red Cross Blood Drive programs.



## **EMPLOYMENT, WORKER'S COMPENSATION AND MEDICAL SERVICES SECTION**

During the early morning hours of Monday, October 26, 1981, a fire ravaged the environs and records of the Employment, Worker's Compensation and Medical Services Section. The fire totally enveloped the area; and while no persons were injured, the damage was extensive. The first order of business was to locate working quarters from whence this section could pick up the thread of day-to-day operations and address the myriad problems with which it was confronted. Space at 21 Arlington Avenue, Charlestown, was immediately made available, as was an assortment of various odds and ends of office equipment to help to re-organize the function.

Uppermost on the list of priorities was the issuance of D.P.U. licenses, properly certified, together with the completion of the pre-requisite physical examinations, so that the Authority could continue to provide public transportation. Also of primary importance was the matter of salvaging records to the extent possible, identification of other sources of information to fill in as many gaps as we could and the best avenues to pursue combining the information into a coherent whole system. Any salvageable records have been restored to the best condition possible under the circumstances, and a tedious manual reconstruction of all files is in process, incorporating therein data that had been stored in the EDP system, together with data available from other sources.

Needless to say, sources were not available to indicate performance statistics for 1981; but it can be confidently stated that the numbers of annual physical examinations administered and those cases referred outside for special determination would parallel those for the previous year, at least up until the time of the fire, without significant variance.

Since the clinic facilities also were destroyed in that fire, the clinic contract physicians have accommodated this unit by administering the more pressing examinations in their own offices. This practice will continue until the function is re-established in a permanent location.

There was no significant abatement in the numbers of compensation claims filed, and certainly no slowdown of the escalation in associated benefits and medical costs. To the contrary, on October 1, 1981, the new weekly compensation rate was raised from \$245.48 to \$269.93, an increase of \$24.45 weekly, or about 9%. The rate changes on October 1 of each year, the result of legislation which provides that the rate be based upon a formula which factors the average income of Massachusetts residents and, as such, is outside the Authority's control. The present rate of \$269.93 weekly represents an increase in compensation rates of about 89% over the rate in effect just four years ago of \$140.00 weekly in January 1977. It is not known just what the impact of Proposition 2½ will be upon the "average income of Massachusetts residents" and its effect on next October's compensation rate; however, present indications are that we can expect another 8-10% increase at that time.

## **EMPLOYEE SERVICES SECTION**

This unit continued its efforts in providing assistance to employees and their families suffering from alcoholic, drug or behavioral problems. During 1981, 126 new clients were enrolled in the program. Counseling was provided to active clients through daily and weekly sessions, and all new employees were introduced to the program during their orientation period. Efforts are ongoing in assisting supervisory and management employees at various work locations with prospective problems encountered in this area.

## **DEPARTMENT OF REAL ESTATE MANAGEMENT**

Despite the adverse impacts in service reductions, fare increases and increased competition by private operators, parking lot revenues have been increased 18% or \$200,000 over 1980.

The Oak Grove parking lot in Malden was substantially expanded onto Authority property where illegal parkers had been avoiding payment of the parking fees. This expansion picked up approximately 200 additional spaces which reflect an increase in revenue of \$27,000 annually to the Authority.

Agreements were reached with the City of Cambridge transferring our Lechmere parking lot to the City for the Keith Fulton Site. This parcel is far more beneficial to the Authority's overall program. It is closer to the existing station, the site of the planned Lechmere Extension, and provides new facilities for "The Ride."

Meetings have been scheduled with the Massachusetts Port Authority to develop the Authority's Wood Island Parking Lot. This property can produce substantial revenues.

Discussions regarding Air Rights Developments are ongoing with the City of Quincy relating to our North Quincy Parking Lot, the City of Woburn relative to our Mishawum Site, the City of Medford relative to our Wellington Facilities and the general development of our Riverside Facility, Route 128 parking site and the South Station Transportation Center.

The Transit Advertising Contract was rebid with major changes to affect greater revenues. The most notable to these was a clause which prevents write-offs which had been customary in the past. The annual guarantee was also increased from \$300,000 to \$1,000,000 with a higher percentage of gross revenue being returned to the Authority.

All Ackerley Billboard licenses have been thoroughly reviewed. An inventory was made of all locations which resulted in the collection of additional revenues to the Authority.

The Department has increased net railroad revenues 130% from \$144,000 to \$333,000 and has been, on a continuing basis, revising licenses and permits taken over from the railroads and assessing increases using Eastern Railroad Association Rates (September 1, 1971), factored by the consumer price index through 1981. To date, 625 agreements have been reviewed and revised.

During 1981 several new leases have been advertised and awarded. The re-assessment of tenants' rents are ongoing and notifications are being forwarded.

All concession areas in South Station were renewed and some rents increased to help in deferring South Station operating expenses.

Negotiations have been carried out and are ongoing with the Registry of Motor Vehicles for lease of 5000 square feet of Washington Street Concourse.

The Board of Directors authorized the sale of several major properties during this period, i.e., Kendall Square, Tewksbury Garage, Shea Road, Cambridge for a total price of \$1,105,000. Also, at the direction of the Board, interest was developed in Lincoln Wharf and a value established in excess of \$800,000. Whereas there is legislation now pending which could affect development, no action is being taken on this property at this time.

Sales of properties currently proposed are Somerville Garage, Faulkner Street Garage, Boston Avenue,

Medford, Campello Shop and Garage in Brockton, Boynton Yards in Somerville and the Eagle Street Garage.

Agreements were reached with the city of Quincy to resolve the ten year old land disputes with the City. The most significant product of this agreement has been the transfer of title to the Authority of Quincy's interest in the Quincy Center Garage.

Right of Way activities in 1981, conducted by Real Estate Management personnel, included involvement in the following projects: Southwest Corridor, Red Line Extension, N.W., Red Line Extension South, Station Modernization, Power Improvements Program, Commuter Rail Improvements, South Station Rehabilitation, and Gallagher Regional Transportation Facility in Lowell.

The activities of the Real Estate personnel included acquiring appraisals and review appraisals in conjunction with the acquisition of properties needed for the above mentioned projects, and contacting property owners to explain the Authority's need for the acquisition of property interests and making formal offers for such interests. An integral part of these activities included negotiations with various federal, state and municipal agencies, including among others, the Boston Housing Authority, Boston Redevelopment Authority, Massachusetts Department of Public Works, Metropolitan District Commission, City of Boston School Department and the Federal Railway Administration.

Inherent in Right of Way activities, and while construction of the projects are still in progress, is the daily response of Right of Way personnel to the critical needs of those individuals affected by Authority construction.

The Property Management System Contract has been awarded and work on the contract is currently in progress and being monitored by this Department. Discussions with several brokerage and development firms have taken place relative to development of major development sites and marketing and management of Authority owned properties.

The Department has been developing and coordinating plans for submission to UMTA for disposition forgiveness and amortization of Penn Central Right of Way advance acquisition loan in the amount of \$19,000,000 which is due in December of 1982.

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# LAW DEPARTMENT

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As multifarious decisions of the Authority increasingly were subjected to court scrutiny, the Law Department continued to provide assistance to the various other departments in the areas of construction, real property, environmental protection, employment, personal injuries and property damage.

The Contracts/Construction Section has had a productive year. In addition to approving and negotiating contracts for construction, the section negotiates claims for extra work and delay, represents the Authority in contract arbitrations and provides assistance in contracts for purchase of materials. On the Red Line construction project alone there are pending construction claims totalling over \$30 million. There are claims totalling approximately \$10 million on the Southwest Corridor project, Midland Branch and Green Line reconstruction projects. Approximately 10% of these claims are currently in litigation. The long-standing challenge to the Red Line extension construction on environmental grounds was dismissed this year by the Federal Court. Another challenge to that project by the City of Cambridge was settled to both parties' satisfaction by a land swap.

Although the Authority now has a Real Estate Department, all legal matters pertaining to real property are still under the jurisdiction of the Law Department. The sale of the Authority's property at the Arborway was voided by the Court for failure to comply with the public bidding statute. The plaintiff appealed that decision. An adverse decision involving the right of the MBTA to enforce the B&M's deed restrictions against a party who purchased former B&M property containing passenger facilities is currently under appeal.

A great deal of time was devoted to legal difficulties between the Authority and state agencies and local consumer and environmental groups. After the legal questions concerning the apportionment of powers and responsibilities between the Authority and the Advisory Board over the budget were resolved by the Supreme Judicial Court, the Authority faced a challenge by certain state legislators and environmental groups to its service cutbacks, necessitated by the reductions in the 1981 budget. The service cuts were upheld by the U.S. Court of Appeals. Similarly, when the decision was made to increase fares, the Authority was threatened with lawsuits by various groups. After negotiations with the Attorney General's office and the Secretary of Environmental Affairs, the fare increases were implemented.

The turmoil that the Authority has been facing during the last year has been reflected within the Authority by the increasing number of lawsuits relating to labor relations. Several suits have been

filed by either the unions or the Authority seeking to vacate or confirm arbitration awards. In addition there have been lawsuits by individual employees against their union and the Authority alleging breach of the duty of fair representation.

Several unsuccessful applicants for employment have filed suits against the Authority claiming racial discrimination, age discrimination, handicapped discrimination and discrimination on the basis of alienage. The suit by aliens struck down the Authority's policy of preferring citizens over aliens for MBTA employment.

The most serious labor relations matters facing the Authority have been the union challenges to two statutes regulating collective bargaining and arbitration for MBTA employees. Although a suit in Federal Court has been decided, there are currently six suits pending in the state court. The Federal District Court enjoined implementation of the management rights statute and the layoff of most union employees and created a new procedure for arbitration of new contracts. On appeal, the U.S. Court of Appeals reversed the lower Court and upheld the two statutes. Since that decision, four actions brought by the unions in State Court seeking preliminary relief from management rights reforms have been decided in the Authority's favor. Even though Supreme Court review of the Court of Appeals decision is expected, that decision will likely have a tremendous impact on the future of the Authority.

In railroad matters, the Law Department participated in negotiations for a new commuter rail operating agreement, and participated in the investigation of collision between a freight train and passenger train.

The current trend of increasingly high jury awards had a significant impact on the MBTA. In one case there was a jury award of \$1.5 million to a plaintiff who was injured on an MBTA bus. This case is under appeal. In a suit for \$1.5 million by two young women who were severely injured when they were struck by a vehicle which was passing an MBTA bus on the right, in both the trial and a new trial, the jury rendered a verdict in favor of the MBTA. Another major personal injury suit involved a rear end collision between a bus and a truck. A passenger on the bus was injured and sued the MBTA for \$400,000. The jury returned a verdict for the MBTA.

In addition to the above matters, the Claim Section of the department settled 2,700 claims of 4,500 claims filed with 3,500 claims still pending. There were 560 suits filed, 420 suits settled where judgments were paid, 1,400 Superior Court suits pending and 3,000 District and Municipal Court suits pending at the end of 1981.



# COMPREHENSIVE PROGRAM FOR MASS TRANSPORTATION

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The MBTA must comply with planning and programming requirements established by State and Federal Law.

At the state level, the Executive Office of Transportation and Construction (EOTC) is responsible for the Comprehensive Program for Mass Transportation in accordance with Chapter 161A, Section 5(g) and (h) of the General Laws of the Commonwealth; as amended by Section 7 of Chapter 1140, Acts of 1973.

The statute states that the Authority's capital investment program and plans for mass transportation "shall be developed in consultation and cooperation with the Authority, and in consultation with the Executive Office of Communities and Development, the Metropolitan Area Planning Council, and such other agencies of the Commonwealth or the Federal Government as may be concerned with said program and plans." The program and any revisions are subject to the approval of the Advisory Board.

The program must include a long-range plan for the construction, reconstruction, or alteration of mass transportation facilities within the Authority's district; a schedule for the implementation of the program; and comprehensive financial estimates of cost and revenues.

The current *Program for Mass Transportation* remains that approved by the Advisory Board on December 21, 1978.

To comply with Federal Requirements, the MBTA, as one of the six agencies constituting the Metropolitan Planning Organization (MPO), cooperated with those other agencies in the preparation of several required certification documents: the *Prospectus*, the *Unified Planning Work Program*, the *Transportation Plan (Long-Range Element and Transportation Systems Management Element)*, and the *Transportation Improvement Program*. All of these documents were revised and approved by the MPO during 1981. □



# LEGISLATION

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The following proposals were filed with the General Court for consideration during the 1982 Session:

1. AN ACT amending the law relative to the use and occupation of certain land in the City of Cambridge by the Massachusetts Bay Transportation Authority. (Died in third reading in House at Prorogation 1980.)

Chapter 298 of the Acts of 1976 requires the MBTA to vacate parcel 1B of the former Eliot-Bennett Street Yards no later than *February 1979*. Said Chapter also requires a certain rent to be paid by the Authority for parcel 1B. This legislation, if adopted, would extend the occupation time on parcel 1B to February 1983 and would delete the rental requirement.

2. AN ACT relative to motor vehicles impeding the operation of the Massachusetts Bay Transportation Authority.

This legislation would allow the MBTA police to tag and tow motor vehicles impeding Authority operations both on and off Authority property. Fines under this legislation would be paid to the Authority for violations on Authority property. Fines for violations off Authority property would be paid to the locality wherein the violation occurred.

3. AN ACT relative to the granting of certain interests in land under Boston Common by the City of Boston to the Massachusetts Bay Transportation Authority in order to extend the subway platforms at Park Street Station.

Article 97 of the Amendments to the Constitution requires legislation to transfer any interest in park and from one governmental agency to another.

4. AN ACT authorizing and directing the City of Boston, through its Parks and Recreation Commission, to convey to the Massachusetts Bay Transportation Authority, certain interests in parcels of land in the City of Boston for the purpose of constructing certain portions of the Massachusetts Bay Transportation Authority's Southwest Corridor Project.

This legislation contains parcels of parkland owned by the City of Boston and required for the Southwest Corridor Project.

5. AN ACT relative to the reimbursement of fuel and special fuel excises to those providing mass transportation services.

Adoption of this proposal would provide 100 percent reimbursement for fuel excises not currently reimbursed.

6. AN ACT providing for the acquisition and management of a Southwest Corridor Park by the Department of Environmental Management.

Park properties in the Southwest Corridor have recently been turned over to the Department of Environmental Management by the Department of Public Works. Legislation is needed to allow D.E.M. to operate within the City of Boston.

7. AN ACT relative to the hiring for certain positions by the Massachusetts Bay Transportation Authority.

This legislation would prohibit the Authority from hiring certain persons as operators, collectors or guards and would allow the Authority to receive criminal offender information (criminal records).

8. AN ACT relative to the prequalification of contractors by the Massachusetts Bay Transportation Authority.

The Authority now prequalifies contractors as a matter of policy. Since the Authority is now under the general bid statute applicable to other agencies, it should come under a similar prequalification statute.

9. AN ACT establishing a claims and indemnity procedure for the Massachusetts Bay Transportation Authority and the officers and employees thereof.

This proposal would impose a one hundred thousand dollar limit on certain claims against the Authority. This same limitation is now applicable to the Commonwealth and cities and towns under legislation enacted in 1978.

10. AN ACT relative to income tax credits for employees providing all or part of certain expenses for public transportation.

This proposal would authorize a tax credit for an employee who subsidizes in whole or part prepaid transit passes or commuter rail ticket. The bill provides for a 50% credit.

11. AN ACT authorizing the Massachusetts Bay Transportation Authority to develop and base its real property not otherwise required for transportation purposes.

This proposal seeks to allow the Authority to develop its real estate for commercial and other uses and authorizes the leasing of real estate and air rights.



12. AN ACT relative to breaking and entering certain property of the Massachusetts Bay Transportation Authority.

This legislation provides punishment for anyone breaking into a fare collection machine, safe, vault or other depository designed to hold or collect fares.

The following laws affecting the Authority were enacted during the 1981 session of the General Court:

**Chapter 49:**

AN ACT making supplemental appropriation for commuter rail service.

**Chapter 176:**

AN ACT imposing a criminal penalty for the consumption of alcoholic beverages with the intent to consume same in a facility or conveyance of the Massachusetts Bay Transportation Authority.

**Chapter 351:**

General Appropriations Act, containing items for contract assistance to the Authority.

**Chapter 732:**

AN ACT providing for a transportation development and improvement program for the Commonwealth (contains bonding authorization for the Authority's capital program).

**Chapter 782:**

AN ACT further regulating state and local taxation and expenditures (Amendments to Proposition 2½).

**Chapter 807:**

AN ACT relative to the sale of the Lincoln Power Station to the San Marco Housing Corporation.

## THE PUBLIC TRANSPORTATION DEFICIT: A BRIEF HISTORY

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Since July 1, 1918, public policy in Massachusetts has been that the transportation network in Greater Boston is a public service, benefiting individuals, businesses and government.

That public policy began when five public trustees began operating the Boston Elevated Railway under the lease conditions of the public Control Act, passed by the Legislature on May 22, 1918. This was six years after the Boston Elevated Railway Co. reported its first deficit of \$492,000. In 1913, the company lost 496,000; there were small surpluses in 1914, 1915, and 1916, but in 1917 there was a loss of \$118,000. In the first half of 1918, when "The EI" was still under private control, losses amounted to \$572,000 and maintenance was being deferred while the company awaited public takeover; consequently a large public investment had to be made and the deficit for the first 12 months of public control was \$3.1 million.

In 55 of the 63 years since the 1918 Public Control act, public transportation has incurred a deficit. The eight years of surplus were 1922, 1923, 1925, 1927, 1928, 1929, 1942 and 1943. The

surplus was nevermore than \$1.9 million. The Metropolitan Transit Authority (MTA), comprising 14 cities and towns, ran the system from 1948 through August 3, 1964. It had deficits, ranging from \$2.2 million to \$21 million, assessable on the communities. The Massachusetts Bay Transportation Authority (MBTA), comprising 79 cities and towns, the successor of the MTA. Its net cost of service assessed on the 79 member communities.

Rising operating expenses, especially wage and fuel costs, are directly attributable to inflation. The spiraling costs continue to far outdistance revenue from fares paid by increased numbers of passengers.

The sources of funding for public transit, passenger revenue, local taxation, and state aid, were expanded to include the Federal Government with the passage of the Urban Mass Transportation Act of 1974 (Section 5). In 1977, the Authority became eligible for additional assistance in the funding of commuter rail operations (Section 17). For the year ending December 31, 1981, the Authority received \$26,236,287 in Federal Operating Grants.

# WHERE THE RIDERS ARE

Revenue from transportation—the rider's fare—pays for about one-fourth of the operating costs of the Massachusetts Bay Transportation Authority.

The tables below show the revenue from the various types of transportation the MBTA operates on the surface and on rails. Revenue to Railroad Operations is not included in the (T) total Transportation Revenues because this (T) service is operated

by the Boston & Maine Corporation and these revenues are included as a reduction in the Railroad contract costs. The streetcar and bus revenue figures from each "rating station"—the garage where bus and streetcar operators pick their route on the basis of their seniority rating—give a further breakdown of where people use public transportation. □

## 1981 REVENUE FROM TRANSPORTATION

### RAPID TRANSIT

Orange Line (Oak Grove-Forest Hills)	\$13,248,265
Blue Line (Bowdoin-Wonderland)	2,920,558
Red Line (Harvard/Brattle-Ashmont)	13,269,341
Red Line (South Shore Extension to Braintree)	5,206,861
Green Line Central Subway (Kenmore-Lechmere)	12,741,572
Total Rapid Transit Lines	\$47,386,597

### SURFACE LINES

Streetcar (Green Line: Riverside, Beacon, Arborway, Commonwealth, Mattapan-Ashmont)	\$ 5,375,632
Trackless Trolley (Cambridge, Belmont, Watertown)	895,844
Bus (172 Routes)	27,766,749
Total Surface Lines	\$34,038,225

### MISCELLANEOUS

School Ticket Sales	\$ 381,837
Chartered Bus	4,996
Total Miscellaneous	\$ 386,833
TOTAL TRANSPORTATION REVENUE	\$81,811,655

Streetcar Revenue by Rating Stations	
Reservoir-Riverside	\$ 5,365,982
Arborway-Mattapan	9,650
TOTAL STREETCAR REVENUE	\$ 5,375,632
Revenue to Railroad Operations	
North Service	\$ 7,160,275
South Service	4,393,409
TOTAL STREETCAR REVENUE	\$11,553,684

Bus Revenue by Rating Stations	
Cabot-Albany, Boston	\$ 9,629,782
Arborway, Boston	5,003,321
Somerville and Arlington Heights	971,193
Salem Street, Medford, Charlestown, Eagle Street, East Boston	7,711,707
Lynn	2,472,404
Quincy	1,978,342
TOTAL BUS REVENUE	\$27,766,749

# 1981 Statistics

Population of 79 Communities in (T) District (1980 U.S. Census-Preliminary)	2,608,633
Number of Bus Routes	153
Number of Streetcar Routes	
Number of Rapid Transit Routes	
Number of Trackless Trolley Routes	1
Number of Commuter Rail Routes	
Buses	988
Streetcars (165) and Light Rail Vehicles (125)	299
Rapid Transit Cars	41
Trackless Trolleys	5
Commuter Rail Vehicles: 46 Locomotives: 247 Coaches (14 leased)	299
Weekday Passengers	515,500
Commuter Rail (Actual)	36,000
Basic (T) System (Estimated)	479,500
Annual Passengers	152,505,089
Commuter Rail (Actual)	9,155,089
Basic (T) System (Estimated)	143,350,000
Rapid Transit Stations, including Riverside & Mattapan Lines	7
Commuter Rail Stations	8
Miles of Track (One Way) in Subway	48
Miles of Track (One Way) on Bridges, Elevated or Surface	42
Rapid Transit Route Miles (One Way)	
Red Line: Harvard/Brattle-Ashmont, 9.6;	
Harvard/Brattle-Braintree, 15.0	
Orange Line: Forest Hills-Oak Grove, 10.9	
Blue Line: Bowdoin-Wonderland, 6.8	
Rapid Transit Route Miles Under Construction (One Way)	8
Red Line Northwest Extension, 3.7;	
Southwest Corridor Orange Line Relocation, 4.7	
Streetcar Route Miles (One Way)	35
Riverside-North Station, 12.5; Arborway-Park, 5.5; Lake Street-	
Lechmere, via Commonwealth Ave., 8.0; Cleveland Circle-	
Lechmere, via Beacon Street, 6.6; Ashmont-Mattapan, 2.5	
Trackless Trolley Route Miles (One Way)	15.7
Bus Route Miles	61
Commuter Rail Route Miles (One Way)	34
North Station: to Gardner, 65; to Concord, NH, 73; to Woburn, 10;	
to Haverhill, 33; to Ipswich, 28; to Rockport, 35.	
South Station: To Framingham, 22; to Franklin, 28;	
to Stoughton, 19; to Providence, 44.	
Employees	5,911
Collective Bargaining Units	



# MBTA ASSESSMENT PROCEDURES

A question frequently heard from our customers is "how is my town's MBTA assessment determined?" All 79 cities and towns in the MBTA district pay a share of the MBTA's yearly deficit or net cost of service. The assessment formulas for sharing the deficit were originally spelled out in state legislation passed in 1964 when the old MTA district, serving 14 cities and towns, was enlarged to the present regional transportation district and renamed the MBTA. The formulas have been amended by the

legislature from time to time in an effort to make the assessment more fair and equitable.

The legislation defines two basic types of MBTA service, "express service" and "local service". Express service refers to rapid transit service on controlled rights of way, while local service refers to MBTA buses, trackless trolleys and streetcars in local streets. The net cost of providing each of these types of service is calculated separately and allocated by a different formula.

Type of Service	Portion of Deficit	Who Pays	Basis for Assessment
EXPRESS	75%	all 79 cities & towns	number of commuters (1970 U.S. Census)
	25%	cities & towns with rapid transit & R.R.	boarding counts (except new stations)
LOCAL	50%	65 cities & towns 14 cities & towns	population (1980 preliminary U.S. Census)
	50%	cities & towns with bus service	share of losses sustained locally

## EXPRESS SERVICE

Legislation has divided the assessment for the cost of express service into two parts, a 75% portion, and a 25% portion, each distributed in a different fashion.

The 75% portion of the net cost of express service is shared by all 79 cities and towns in the MBTA, based on the number of "commuters" living in each municipality. The number of commuters in each city and town was determined from the 1970 Federal census data and included all people who traveled outside their town to their place of work, whether they used public transportation or not. In the case of the City of Boston, the number of commuters was established so that Boston would be responsible for not less than 30% of this 75% portion.

The remaining 25% of the net cost of express service is shared only by those cities and towns that have one or more express service stations. This part of the assessment is proportional to the number of

passengers boarding the rapid transit and railroad lines at stations in each community. By law counts are taken to determine the number of passengers boarding at each station and within each town, and in no event less frequently than every two years. However, in 1973, the legislature amended the assessment procedure to exclude from the boarding counts passengers boarding at new rapid transit stations opened after July, 1973. This amendment means that a new station in a community will not result in an increase in its assessment for the 25% portion of express service costs.

## LOCAL SERVICE

Local service refers to buses, trackless trolleys, and streetcars operating on local streets. As in express service, the formula for assigning the local service deficit is divided into two parts, in this case two equal or 50% portions. Half of the local service deficit is allocated on the basis of population as determined by the most recent Federal Census

(1980); but on the weight of 14 Cities and Towns and 65 Cities and Towns independently. The other 50% of the deficit from local service operations is shared by those cities and towns that have such service, and is based on the proportion of losses incurred in each city or town.

To determine the operating loss incurred in each community, costs are first identified with a mode of service—bus, trackless trolley and streetcar. All direct costs are identified directly with the appropriate mode, and indirect costs are allocated to modes largely based upon the direct charges to each mode each month. Costs by mode are then allocated to specific routes by means of one of six bases depending upon the type of expense involved. Direct costs of operations and maintenance of each rating station (depot), are allocated only to routes emanating from that rating station. For example, costs of operating and maintaining routes from the Quincy Garage are allocated only to the routes in the Quincy Rating Station.

Farebox revenue is sampled on each route four times yearly, and the difference between operating cost and annual revenue determines the yearly profit or loss for each route. This profit or loss is allocated to each city or town on the route. If a town elects to have no local service, buses then make no stops in that town, and the profit or loss from routes passing through that town is distributed among the other towns on the route. For all cities and towns with local MBTA service, the losses and profits from the routes in the community are totaled. Half of the MBTA's local service assessment is then based

on the percentage of local service operating losses incurred in each municipality.

As an example of local service assessment, consider a six-mile long bus route, with four miles in Town A and two miles in Town B. Assume that the operating cost for the route was \$100,000 a year. Assume also that farebox revenue on the route was \$40,000 a year. The operating deficit would be \$60,000 a year, the difference between operating cost and revenue. Half of this \$60,000 deficit (\$30,000) would be allocated among the 14 Cities and Towns and the 65 Cities and Towns on the basis of population, and half would be allocated to Towns A and B. Town A would have to pay \$20,000 and Town B would be assessed \$10,000 because the bus route operated twice as many miles in Town A as in Town B.

## OBJECTIVES

The MBTA assessment procedures can be summed up by pointing out two objectives in the formulas. The first objective is to recognize that the 79 cities and towns of the MBTA District comprise one regional transportation district, that all municipalities benefit by the system, and, therefore, all must share some of the deficit. The second objective is to assess a greater portion of the cost of operating the MBTA on those cities and towns that get a greater degree of service. To relieve the burden on local governments, the state began, in 1973, to pay for part of the MBTA deficit. The Federal government is also providing operating subsidies for mass transit under legislation enacted in 1974.

# **APPENDIX: FINANCIAL STATEMENTS**

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# FINANCIAL STATEMENTS:

## DECEMBER 31, 1981 and 1980

The Authority's financial statements were audited by Arthur Andersen & Co., independent public accountants, and their report is included with the following financial statements:

- Balance Sheet—December 31, 1981 and 1980
- Statement of Revenue and Cost of Service for the Years Ended December 31, 1981 and 1980
- Statement of Unreimbursed Cost of Service for the Years Ended December 31, 1981 and 1980
- Statement of Changes in Financial Position for the Years Ended December 31, 1981 and 1980
- Statement of Bonds Payable—December 1981 and 1980
- Notes to Financial Statements—December 31, 1981 and 1980

### Difference in Financial Presentation

The audited financial statements historically reflect a different amount for "Cost of Service in Excess of Revenue" than is shown on the Authority's "Statement of Net Cost of Service" due to different methods of accounting for certain costs and revenues. The audited statements include in cost of service certain non-cash expenditures such as amortization and depreciation (computed based on the estimated useful lives of the assets) and interest accrued on federal loans and exclude from operating revenue reimbursements from the state and communities outside the MBTA district. The "Statement of Net Cost of Service" includes principal payments on debt as an expense in lieu of depreciation and includes certain reimbursements in revenue. □

The two amounts are reconciled as follows:

	(\$000 Omitted)	
	1981	1980
Cost of Service in Excess of Revenue" per Authority's "Statement of Net Cost of Service"	\$ (244,674)	\$ (256,659)
Interest on the federal loans not currently assessable, net of property management income and expenses (See Note 9)	(2,547)	(2,076)
Reimbursement for contracted passenger services outside the district, carried by the Authority as a revenue item to reduce the amount assessable to other cities and towns	(1,510)	(3,386)
Gasoline and fuel taxes reimbursed by the state and classified by the Authority as revenue	(518)	(479)
The amount that depreciation and amortization expense exceeded bond payments during the year (See Note 1)	(19,034)	(14,414)
Provision for power generating equipment, net (See Note 11)	(5,155)	—
Commuter rail labor costs incurred in 1978 and 1979 but not funded by the Advisory Board until 1980	—	2,800
Cost of Service in Excess of Revenue" per Authority's audited statements	<u>\$ (273,438)</u>	<u>\$ (274,214)</u>

ARTHUR ANDERSEN & Co.  
BOSTON, MASSACHUSETTS

To the Board of Directors of

Massachusetts Bay Transportation Authority:

We have examined the balance sheet and statement of bonds payable of the MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (a political subdivision of the Commonwealth of Massachusetts) as of December 31, 1981 and 1980, and the related statements of revenue and cost of service, unreimbursed cost of service, and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial position of the Massachusetts Bay Transportation Authority as of December 31, 1981 and 1980, and the results of its operations and the changes in its financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

*Arthur Andersen & Co.*

March 31, 1982.



**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**BALANCE SHEET — DECEMBER 31, 1981 and 1980**  
(\$000 Omitted)

**ASSETS**

	1981	1980
TRANSPORTATION PROPERTY, at cost (Notes 1 and 7):		
Transportation property in service	\$1,114,529	\$ 993,229
Less—Reserve for depreciation	<u>241,161</u>	<u>210,494</u>
	\$ 873,368	\$ 782,735
Construction in progress	607,130	428,671
Property held for expansion (Note 9)	<u>21,852</u>	<u>20,601</u>
	<u>\$1,502,350</u>	<u>\$1,232,007</u>
 SPECIAL FUNDS, consisting of Cash and Certificates of Deposit:		
Construction funds	\$ 10,217	\$ 20,570
Federal grants and other special funds (Notes 1, 7 and 8)	<u>49,161</u>	<u>42,061</u>
	<u>\$ 59,378</u>	<u>\$ 62,631</u>
 CURRENT ASSETS:		
Cash	\$ 8,386	\$ 7,726
Temporary cash investments	3,993	21,300
Accounts receivable—		
Commonwealth of Massachusetts (Notes 1, 2 and 3)	194,841	184,630
Federal Department of Transportation (Notes 4 and 5)	26,284	6,511
Other	10,415	9,443
Materials and supplies, at average cost	15,515	15,674
Prepaid expenses	<u>1,009</u>	<u>1,338</u>
	<u>\$ 260,443</u>	<u>\$ 246,622</u>
 DEFERRED CHARGES	<u>\$ 12,008</u>	<u>\$ 10,515</u>
	<u>\$1,834,179</u>	<u>\$1,551,775</u>

The accompanying notes are an integral part of these financial statements.

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**BALANCE SHEET — DECEMBER 31, 1981 and 1980**  
(\$000 Omitted)

**LIABILITIES**

	1981	1980
LONG-TERM DEBT, exclusive of current maturities:		
Bonds payable (See Separate Statement)	\$ 478,020	\$ 448,283
Loans payable to Federal Department of Transportation, including accrued interest of \$17,912 in 1981 and \$15,110 in 1980 (Note 9)	54,937	52,133
	<u>\$ 532,957</u>	<u>\$ 500,416</u>
UNREIMBURSED COST OF SERVICE (NOTE 1)	<u>\$ (20,147)</u>	<u>\$ (13,099)</u>
CURRENT LIABILITIES:		
Current maturities of bonds payable (See Separate Statement)	\$ 15,262	\$ 13,222
Notes payable (Note 6)	195,000	195,000
Accounts payable	33,825	27,463
Accrued liabilities —		
Payroll	2,168	1,683
Interest	23,848	16,183
Other	10,220	9,077
	<u>\$ 280,323</u>	<u>\$ 262,622</u>
COMMITMENTS AND CONTINGENCIES (Notes 1, 2, 7, 8, 10 and 11)		
DEFERRED CREDITS (Note 8)	<u>\$ 47,090</u>	<u>\$ 40,900</u>
GRANTS (Notes 1 and 7):		
Federal grants	\$1,060,502	\$ 810,865
Local grants	20,773	17,859
	<u>\$1,081,275</u>	<u>\$ 828,724</u>
Less — Amortization	87,319	67,800
	<u>\$ 993,956</u>	<u>\$ 760,924</u>
	<u>\$1,834,179</u>	<u>\$1,551,770</u>

The accompanying notes are an integral part of these financial statements.

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**STATEMENT OF REVENUE AND COST OF SERVICE**  
**FOR THE YEARS ENDED DECEMBER 31, 1981 and 1980**  
(\$000 Omitted)

	1981	1980
OPERATING REVENUE, not including local and federal assistance:		
Passenger revenue	\$ 81,812	\$ 66,197
Other	<u>3,101</u>	<u>2,650</u>
	<u>\$ 84,913</u>	<u>\$ 68,847</u>
OPERATING EXPENSES (Notes 1, 2, and 12):		
Labor	\$ 115,398	\$ 120,705
Fringe benefits (Note 10)	66,193	62,916
Depreciation and amortization (Note 5)	31,930	27,498
Materials and supplies —		
Fuel	7,639	6,572
Other	12,769	15,632
Utilities —		
Propulsion power	15,615	15,734
Other	10,115	8,138
Services	7,058	5,784
Casualty and liability costs	3,793	3,703
Other	<u>2,523</u>	<u>2,682</u>
	<u>\$ 273,033</u>	<u>\$ 269,364</u>
OPERATING LOSS	\$(188,120)	\$(200,517)
OTHER INCOME, including interest of \$14,772 in 1981 and \$13,290 in 1980 and the sale of certain tax benefits of \$2,339 in 1981	17,228	13,623
INTEREST EXPENSE, including long-term debt interest of \$31,328 in 1981 and \$26,744 in 1980	(49,944)	(42,100)
PROVISION FOR POWER GENERATING EQUIPMENT, NET (Note 11)	(5,155)	—
RAILROAD COMMUTER EXPENSE, net of passenger revenues of \$12,933 in 1981 and \$11,554 in 1980 (Note 5)	<u>(47,447)</u>	<u>(45,220)</u>
COST OF SERVICE IN EXCESS OF REVENUE (Notes 1 and 3)	<u><u>\$ (273,438)</u></u>	<u><u>\$ (274,214)</u></u>

The accompanying notes are an integral part of these financial statements.



**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY  
STATEMENT OF UNREIMBURSED COST OF SERVICE  
FOR THE YEARS ENDED DECEMBER 31, 1981 and 1980  
(\$000 Omitted)**

	1981	1980
BALANCE AT BEGINNING OF YEAR	\$ (13,094)	\$ (16,800)
ADD — Cost of service in excess of revenue	(273,438)	(274,214)
DEDUCT:		
Net cost of service reimbursable by the Commonwealth of Massachusetts, a portion of which is to be assessed to the cities and towns constituting the Authority (Note 3)	178,929	193,107
Contract assistance for debt service pursuant to Section 28 of Chapter 161A of the General Laws, as amended (Note 3)	32,906	29,522
Other contract assistance (Note 3)	6,601	4,699
Federal operating assistance pursuant to Section 5 of the Urban Mass Transportation Act of 1964, as amended (Note 4)	26,237	29,320
Railroad commuter expense reimbursable by government entities outside the Authority's area (Note 5)	1,510	3,383
State diesel and gasoline fuel taxes reimbursable to the Authority in accordance with Section 2 of Chapter 563 of the Acts of 1964	518	477
Amortization of grants and deferred credits (Notes 1 and 7)	<u>19,684</u>	<u>17,402</u>
BALANCE AT END OF YEAR	<u><u>\$ (20,147)</u></u>	<u><u>\$ (13,094)</u></u>

The accompanying notes are an integral part of these financial statements.

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**STATEMENT OF CHANGES IN FINANCIAL POSITION**  
**FOR THE YEARS ENDED DECEMBER 31, 1981 and 1980**  
(\$000 Omitted)

	1981	1980
<b>FUNDS WERE USED FOR:</b>		
Cost of service in excess of revenue	\$273,438	\$274,214
Less — Charges to cost of service in excess of revenue which did not require funds —		
Depreciation of transportation property	(31,162)	(26,761)
Amortization of deferred charges	(1,118)	(1,087)
Interest accrued on loan from Federal Department of Transportation	(2,802)	(2,190)
	<u>\$238,356</u>	<u>\$244,176</u>
Additions to transportation property, net	301,505	249,635
Forgiveness of federal loan principal and interest	—	7,692
Payments of bonds payable	15,262	13,222
Other	2,612	(185)
Total funds used	<u>\$557,735</u>	<u>\$514,540</u>
<b>FUNDS WERE PROVIDED BY:</b>		
Capital grants from federal and other sources	\$252,552	\$202,858
Issuance of long-term debt	45,000	30,000
Net cost of service reimbursable by the Commonwealth of Massachusetts, a portion of which is to be assessed to the cities and towns constituting the Authority	178,929	193,107
Contract assistance from the Commonwealth of Massachusetts	39,507	34,223
Federal operating assistance	26,237	29,328
Reimbursements by the Commonwealth of Massachusetts of state diesel and gasoline fuel taxes	518	479
Reimbursement for service provided to cities and towns outside the Authority's area	1,510	3,386
Decrease in special funds	3,254	19,755
Increase in deferred credits	6,349	3,996
Total funds provided	<u>\$553,856</u>	<u>\$517,132</u>
<b>RESULTING IN A WORKING CAPITAL INCREASE (DECREASE) OF</b>	<u>(3,879)</u>	<u>\$ 2,592</u>
<b>CHANGES IN ELEMENTS OF WORKING CAPITAL CONSIST OF:</b>		
Increase (decrease) in current assets —		
Cash	\$ 660	\$ 5,603
Temporary cash investments	(17,307)	6,400
Accounts receivable	30,956	(9,307)
Materials and supplies	(159)	2,340
Prepaid expenses	(329)	148
	<u>\$ 13,821</u>	<u>\$ 5,184</u>
Increase (decrease) in current liabilities —		
Current maturities of bonds payable	\$ 2,040	\$ (313)
Accounts payable	6,363	1,451
Accrued liabilities	9,297	1,454
	<u>\$ 17,700</u>	<u>\$ 2,592</u>
Increase (decrease) in working capital	<u>\$ (3,879)</u>	<u>\$ 2,592</u>

The accompanying notes are an integral part of these financial statements.

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**STATEMENT OF BONDS PAYABLE**  
**DECEMBER 31, 1981 and 1980**

(Notes 6 and 7)

Massachusetts Bay Transportation Authority General Transportation System Bonds issued under General Laws, Chapter 161A, Section 23 of the Commonwealth of Massachusetts, are all payable in annual installments on March 1; interest is payable semi-annually on March 1 and September 1. The bonds were issued to provide funds for the purposes outlined below. (Dollar amounts in thousands)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>Bonds Outstanding December 31,</u>	
				<u>1981</u>	<u>1980</u>
1967 Series A Bonds <u>dated March 1, 1967</u>					
Express service transportation facilities	2007	\$1,900	3.81%	\$49,400	\$ 51,300
Agreement with railroads	1982	350	3.75	350	700
Local service transportation facilities	2007	50	3.81	1,300	1,350
Capital cost of certain transportation facilities including yards, shops and rolling stock	2007	650	3.81	16,900	17,550
				<u>\$ 67,950</u>	<u>\$ 70,900</u>
1970 Series A Bonds <u>dated September 1, 1970</u>					
Express service transportation facilities	2010	\$1,540	6.36%	\$ 44,560	\$ 46,100
Buses and other purposes	1982	275	6.00	275	550
				<u>\$ 44,835</u>	<u>\$ 46,650</u>
1972 Series A Bonds <u>dated September 1, 1972</u>					
Express service transportation facilities and other capital costs	2012	\$ 865	5.26%	\$ 26,715	\$ 27,580
Bus acquisition	1984	290	5.40	870	1,160
Bus garages	1984	165	5.40	495	660
				<u>\$ 28,080</u>	<u>\$ 29,400</u>
1974 Series A Bonds <u>dated June 1, 1974</u>					
Express service transportation facilities and other capital costs	2014	\$1,800	6.55%	\$ 58,800	\$ 60,600
Bus and trackless trolley acquisition	1986	300	7.00	1,500	1,800
				<u>\$ 60,300</u>	<u>\$ 62,400</u>



**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**STATEMENT OF BONDS PAYABLE**  
**DECEMBER 31, 1981 and 1980**

(Notes 6 and 7)  
(Continued)

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>Bonds Outstanding December 31,</u>	
				<u>1981</u>	<u>1980</u>
1977 Series A Bonds <u>dated September 1, 1977</u>					
Express service transportation facilities and other capital costs	2017	\$2,000	6.31%	<u>\$ 71,800</u>	<u>\$ 72,600</u>
979 Series A Bonds <u>dated May 1, 1979</u>					
Express service transportation facilities and other capital costs	2019	\$1,500	7.05%	<u>\$ 56,600</u>	<u>\$ 58,300</u>
981 Series A Bonds <u>dated October 1, 1981</u>					
Express service transportation facilities and other capital costs	2001	\$2,250	13.11%	<u>\$ 45,000</u>	<u>—</u>
Total General Transportation System Bonds Payable				<u>\$374,565</u>	<u>\$340,250</u>

**Bond Anticipation Notes**

The proceeds from the sale of these notes were deposited in the Construction funds account and are being used for capital costs of the transportation system. The interest rate was 11.9% at December 31, 1981 and 12.5% at December 31, 1980. The Authority intends to refinance the notes with a General Transportation System Bond issue of \$68,270,000 on April 1, 1982 at interest rates ranging from 8.25% to 13.25% due through the year 2005. Annual principal payments will approximate \$3,000,000. The notes have been classified as Long-Term Debt, Bonds Payable on the balance sheet.

\$ 30,000      \$ 30,000

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**STATEMENT OF BONDS PAYABLE**  
**DECEMBER 31, 1981 and 1980**

(Notes 6 and 7)  
(Continued)

**Boston Metropolitan District (BMD) Bonds**—These bonds were issued for transit purposes prior to the formation of the Massachusetts Bay Transportation Authority in 1964. For Construction Bonds, after annual payments through the year of maturity as noted below, the remaining balances are payable in the year of maturity; however, the Authority intends to refinance these amounts. Therefore, bonds maturing in 1982 have been classified as long-term debt.

<u>Purpose</u>	<u>Year of Maturity</u>	<u>Approximate Annual Payments</u>	<u>Average Interest Rate</u>	<u>Bonds Outstanding December 31,</u>	
				<u>1981</u>	<u>1980</u>
Boston Elevated Railway Company and Metropolitan Transit Authority Debt	2020	\$1,000	5.40%	\$ 38,919	\$ 39,911
Purchase of City of Boston Transit Properties	2024	\$ 536	4.40%	\$ 23,059	\$ 23,593
Equipment Serial Bonds	1981	\$ 127	1.50%	—	\$ 127
	1987	127	2.90	\$ 765	899
	1988	131	2.90	917	1,044
	1993	169	3.00	2,028	2,199
	1993	100	3.20	1,200	1,300
				\$ 4,910	\$ 5,566
Construction Bonds	1982	—	8.75%	\$ 4,488	\$ 4,488
	1982	—	8.75	3,782	3,866
	1982	\$ 22	2.10	1,012	1,033
	1983	47	2.75	2,209	2,256
	1984	10	2.30	480	490
	1988	55	3.00	2,860	2,914
	1989	70	3.60	3,692	3,767
	1990	19	3.50	1,026	1,044
	1993	40	3.20	2,280	2,320
				\$ 21,829	\$ 22,170
Total BMD Bonds Payable				\$ 88,717	\$ 91,254
Total Bonds Payable				\$493,282	\$461,504
Less: Current Maturities of Bonds Payable				15,262	13,228
Total Bonds Payable—Long-term				\$478,020	\$448,276

The accompanying notes are an integral part of these financial statements.

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 1981 and 1980**

**(1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**(a) Expense Classification**

The Authority's operating expenses have been classified in accordance with the uniform system of accounts specified under Section 15 of the Urban Mass Transportation Act of 1964, as amended. In addition, Note 12 presents operating expenses in a functional format.

The classifications of expenses under the Section 15 chart of accounts are different than the classifications used by the Authority in its reports of Net Cost of Service by budget line due to differing definitions of the categories of expense (e.g., payments of vacation, holiday, and sick pay are classified as fringe benefits under the uniform system of accounts).

**(b) Transportation Property**

Transportation property is stated at historical cost. Such costs include Authority labor costs for employees working on capital projects plus related fringe benefits, an allocated share of general and administrative costs and do not include any interest cost associated with construction in progress.

**(c) Depreciation**

Depreciation is provided in the accounts based on the straight-line method at rates which are designed to amortize the original cost of the property over its estimated useful life. The major categories of transportation property in service and the depreciation rates used in 1981 are:

	Rates			Cost (\$000 Omitted)	
	Low	High	Average	1981	1980
Ways and structures	2.02	10.0	1.33	\$ 681,673	\$649,986
Equipment	2.22	18.0	5.40	372,307	289,539
Land	—	—	—	60,549	53,704
				<u>\$1,114,529</u>	<u>\$993,229</u>

**(d) Deferred Charges**

Certain costs incurred by the Authority, primarily related to the expansion and modernization of the transportation system, have been capitalized. These costs are then amortized by charges to cost of service over the future periods in which the benefit to the Authority is estimated to be realized. In 1981 and 1980, amortization amounted to \$1,118,000 and \$1,087,000, respectively, which includes \$350,000 relating to railroad commuter expense each year.

**(e) Casualty and Liability Costs**

The Authority is a self-insurer on claims for injuries and damages to the extent of \$2,000,000 per accident. Insurance coverage is carried on claims in excess of that amount up to a maximum limit of \$21,000,000.

The Authority accounts for injuries and damages by charges to operating expenses as payments are made. In addition, the Authority has established a public liability fund amounting to \$2,575,000 at December 31, 1981 and \$2,252,000 at December 31, 1980. In the opinion of the Authority's General Counsel, the ultimate settlement of various cases in process at December 31, 1981 will not have a material impact upon the Authority's financial statements.

**(f) Workmen's Compensation Expense**

The Authority is a self-insurer on claims for workmen's compensation to the extent of \$200,000 per occurrence. Insurance coverage is carried on each occurrence in excess of that amount up to a maximum limit of \$4,200,000 per occurrence. The Authority accounts for these claims by charges to operating expenses as payments are made.



(g) **Vacation**

The Authority recognizes vacation expense by charges to operating expenses in the year the vacation is taken. Unpaid vested vacation pay amounted to approximately \$9,800,000 and \$10,300,000 as of December 31, 1981 and 1980, respectively.

(h) **Grants**

The Authority receives capital expansion grants from certain governmental agencies to be used for various purposes connected with the planning, modernization and expansion of transportation facilities and equipment. Amortization of these grants is deferred until such time as the related facilities and equipment are put into service. The grants are then amortized over the lesser of the estimated useful life of the assets, or forty years, as a reduction of unreimbursed cost of service. As of December 31, 1981, the Authority had incurred costs paid with construction funds totaling \$8,992,000. These expenditures will be reimbursed with federal capital grant funds and reflected as grants when these funds are received.

(i) **Unreimbursed Cost of Service**

The legislative act under which the Massachusetts Bay Transportation Authority was established provides, among other things, that the Commonwealth of Massachusetts shall reimburse the Authority for the Net Cost of Service, as defined. This amount is then assessed to the 79 cities and towns constituting the Authority to the extent it exceeds contract assistance (Note 3). The Net Cost of Service includes a charge equal to the payments made on long-term debt during the period, and does not include a charge for depreciation and certain amortization. For financial reporting purposes, however, the Authority follows the generally accepted method of depreciating and amortizing the cost of assets over their estimated useful lives.

The difference between the sum of depreciation and amortization expense and the sum of payments made on long-term debt and amortization of grants is accumulated in the unreimbursed cost of service account. The sum of payments on long-term debt and amortization of grants exceeded the depreciation and amortization expense by \$649,000 for 1981 and \$2,988,000 in 1980.

In addition, the Net Cost of Service does not include charges for interest expense on the Loan Payable to the Federal Department of Transportation (\$2,547,000 in 1981 and \$2,076,000 in 1980) (Note 9) and a provision for power generating equipment, net, of \$5,155,000 (Note 11). However, for financial reporting purposes, these amounts have been charged to cost of service in accordance with generally accepted accounting principles. Interest accrued will be included in net cost of service in the year it is paid.

(2) **1980 EMERGENCY LEGISLATION**

In December, 1980, legislation was passed (Chapter 581) which provided funding to allow the Authority to operate through the end of the year, and also (1) changed the management structure of the Authority, (2) provided that the Authority not enter into collective bargaining agreements which jeopardize matters of inherent management rights, (3) prohibited the Authority from entering into agreements which provide for pension benefits to its employees determined in a manner that includes overtime earnings or which provide for automatic cost-of-living salary adjustments, (4) limited, with certain exceptions, the Authority's budgets for the calendar years 1981, 1982, and 1983 to 104 percent of the budget approved for the preceding year, unless the Advisory Board votes to exceed such a limit by a two-thirds majority, and (5) limited the assessments to the 79 cities and towns in the district to 104 percent of the assessment for the prior year beginning with the Authority's 1981 calendar year operations.

In accordance with the 1980 legislation, the Authority has not granted cost-of-living adjustments in 1981 and has removed overtime earnings from the determination of pension benefits for unions representing the majority of its employees. Contract negotiations are continuing.

Unions representing Authority employees have commenced various lawsuits relating to the validity of the 1980 MBTA Legislation. The unions have also alleged to the federal government that the implementation of various provisions of the legislation violates the terms of federal agreements relating to both capital and operating grants to the Authority. A recent federal circuit court of appeals decision, however, upheld the provisions of the 1980 MBTA Legislation insofar as federal law is concerned. The impact of the legislation on the Authority's future operations remains uncertain.

(3) **CONTRACT ASSISTANCE FROM THE COMMONWEALTH OF MASSACHUSETTS**

(a) **Debt Service**

The legislative act authorizing the issuance of debt securities currently provides for participation by the Commonwealth of Massachusetts in the payment of annual debt service costs on bonds issued by the Authority as follows: on the bonds issued prior to January 1, 1971, the debt service is eligible for contract assistance at either 90% or 50%, as provided by contract; on bonds, and bond anticipation notes, issued after

January 1, 1971, 90% of the debt service is eligible for contract assistance. However, regardless of when issued, contract assistance, under the current statute, will not be available on the debt service of more than \$528,500,000 of bonds outstanding at any one time. In 1981 and 1980, the Authority was eligible for assistance of \$32,906,000 and \$29,524,000, respectively.

**(b) Operating Assistance**

The 1980 Emergency Legislation (see Note 2) specified that the Commonwealth shall provide contract assistance for 1980 amounting to seventy-five percent of the Net Cost of Service resulting from expenses incurred in excess of the Advisory Board approved budget limit of \$302,130,000, up to an expense limit of \$343,167,000. In 1981, the Commonwealth enacted legislation which provided the Authority with contract assistance for the 1980 Net Cost of Service amounting to \$105,851,000. This additional contract assistance was not assessable to the 79 cities and towns constituting the Authority and was applied for assessment purposes as a reduction of all cost items comprising the Net Cost of Service of the Authority.

The Authority estimates that the 1981 contract assistance, based on operating expenses for Net Cost of Service purposes of \$348,842,000, will be \$96,600,000. This contract assistance is based upon a \$95,000,000 assessment limitation to the cities and towns and is subject to legislative approval.

The Authority's total operating expenses were within the Advisory Board's approved budget limit of \$348,987,071. However, the Authority exceeded several line items of that itemized budget. Management intends to request approval for line item transfers, under an Advisory Board administrative procedure, to bring all expenses within budget line item limits.

Contract assistance for commuter rail service outside the MBTA district is provided by statute each year in amounts to assure that the amounts billed to the regional transit authorities receiving the service do not exceed the portion paid on March 1, 1978. The assistance under this statute amounted to \$6,601,000 and \$4,699,000 in 1981 and 1980, respectively. (See Note 5)

**) FEDERAL OPERATING ASSISTANCE (Department of Transportation)**

Section 5 of the Urban Mass Transportation Act of 1964, as amended, provides federal operating assistance in decreasing amounts through 1984 on the basis of a statutory formula. Urbanized areas may use Section 5 funds by developing specific capital assistance and/or operating assistance projects under the statutory requirements of the Act, as defined. The Authority has been designated the primary recipient for the Section 5 operating assistance for the Boston urbanized area. For 1981 and 1980, federal operating assistance amounted to \$26,236,000 and \$29,328,000, respectively.

**) RAILROAD COMMUTER SUBSIDIES**

Under Chapter 161A Section 3(f) of the General Laws, the Authority may enter into agreement with private transportation companies, railroads and other concerns providing for joint or cooperative operation of any mass transportation facility and for operation and use of any mass transportation facility and equipment for the account of the Authority.

On February 23, 1982, the Authority entered into a new five-year operating agreement with the Boston and Maine Corporation, Debtor (B&M), to provide commuter railroad service over the Authority's rail lines. The Authority has agreed to pay the B&M for direct and indirect service expenses, a management fee and ridership and performance incentives that may be reduced by offsets in case of non-compliance. Under the previous agreement which expired December 31, 1981, the Authority agreed to pay the B&M all direct costs of operating the service, plus an equitable share of indirect costs and certain incentive payments.

In the event that the Advisory Board fails to approve the annual budgetary provision for any of this service, the agreement shall terminate subject to certain labor protection obligations.

The costs and related operating assistance of commuter rail service are summarized below:

(\$000 Omitted)

	1981	1980
Passenger revenues	\$12,933	\$11,554
Operating costs, excluding depreciation of Authority owned property devoted to commuter rail service	<u>60,380</u>	<u>56,774</u>
Railroad commuter expense reflected in statement of revenue and cost of service	\$47,447	\$45,220



Less: operating assistance reflected in the statement of unreimbursed cost of service

Federal operating assistance related to railroad commuter operations	4,218	4,292
State contract assistance	6,601	4,693
Reimbursement from entities outside the Authority's area	1,510	3,383
	<u>\$35,118</u>	<u>\$32,841</u>
Depreciation expense not included above	<u>\$ 6,438</u>	<u>\$ 4,383</u>

#### (6) NOTES PAYABLE

The following notes payable were outstanding as of December 31:

1981			1980		
Due Date	Interest Rate	(\$000 Omitted) Principal Amount	Due Date	Interest Rate	(\$000 Omitted) Principal Amount
Mar. 12, 1982	10.75%	\$124,000	Mar. 13, 1981	10.10%	\$ 75,000
Mar. 12, 1982	10.22%	1,000	Mar. 13, 1981	7.00%	50,000
July 7, 1982	10.375%	70,000	July 7, 1981	5.90%	70,000
		<u>\$195,000</u>			<u>\$195,000</u>

Notes payable of \$125 million due March 12, 1982 were refinanced on the due date at an interest rate of 9.25% (\$100 million and 9.30% (\$25 million) due March 11, 1983.

The legislative act under which the Massachusetts Bay Transportation Authority was established provides among other things, that if at any time any principal or interest is due on any bond or note issued and assumed by the Authority and funds to pay the same are not available, the Commonwealth of Massachusetts shall thereupon remit to the Authority the amount required to meet such obligations.

#### (7) PLANT AND EQUIPMENT IMPROVEMENT PROGRAM

The Authority's continuing program for mass transportation development has projects in service and in various stages of approval, planning, and implementation with a total estimated cost of \$3.79 billion. As of December 31, 1981, projects with an estimated cost of \$2.55 billion have been approved with \$1.82 billion to be provided from federal grants, \$640 million from Authority bonds and \$90 million from other sources. As of December 31, 1981, the Authority has expended \$1.58 billion on this program which has been financed through the receipt of \$1.06 billion of Federal grants, \$472 million of Massachusetts Bay Transportation Authority General Transportation System Bonds, \$30 million of Bond Anticipation Notes and \$20.7 million from other state and local sources.

The terms of the federal grant contracts require, among other things, the Authority to utilize the equipment and facilities for the purpose specified in the grant agreement, maintain these items in operation for a specified time period which normally approximates the useful life of the equipment, and comply with the equal employment opportunity and affirmative action programs as required by the Urban Mass Transportation Act of 1964, as amended. Failure to comply with these terms may jeopardize future funding and require the Authority to refund a portion of these grants to the Federal Department of Transportation. In management's opinion, the Authority is in substantial compliance with these requirements as of December 31, 1981.

Currently, the authorized debt ceiling for MBTA bonds is \$660,500,000. Of this amount, \$271,500,000 may be issued only once, and any bonds maturing or redeemed on or after January 1, 1984 may not be reissued thereby reducing the amount of bonds which may be outstanding at any one time. The issuance of debt to provide the required financing for the entire program is contingent upon legislative approval of a higher authorized debt limit. Additional bond authorization needs for the entire program are estimated to be \$160 million.

As of December 31, 1981, the Authority had outstanding commitments related to the improvement program amounting to approximately \$385 million.



## **(8) Green Line Vehicle Program**

As part of the Authority's program for mass transportation improvement, the Authority entered into a grant contract with the Urban Mass Transportation Administration (UMTA) providing for the purchase of 175 light rail vehicles, spare components, and various engineering support at an estimated project cost of \$68,305,000, \$48,084,000 to be provided by an UMTA grant. In 1972, the Authority entered into a contract with Boeing Vertol Company for the purchase of these vehicles, components and related engineering support. The 135 vehicles delivered pursuant to this contract were plagued by a variety of operating and maintenance problems which led to a series of disputes between the manufacturer and the Authority. In 1979, an agreement was reached with Boeing Vertol Company settling all disputes.

The Urban Mass Transportation Administration has concurred with the agreement between Boeing Vertol Company and the Authority. This provided that the cash settlement and associated interest income will be used along with funds remaining from the original grant to provide 175 vehicles with equivalent capacity available for revenue service. Authority management intends to utilize the funds to modify existing vehicles and procure additional vehicles to meet this provision.

At December 31, 1981, the balance available in other special funds was \$47,313,000, which reflects the settlement proceeds from Boeing Vertol Company plus interest realized on the proceeds since the date of the settlement, less expenditures made for eligible project costs.

## **9) LOANS PAYABLE TO FEDERAL DEPARTMENT OF TRANSPORTATION**

In 1973, the Authority purchased 145 miles of right-of-way and related properties in Eastern Massachusetts from the Penn Central Railroad. This purchase was financed with a \$19.5 million (6.875% interest rate) loan from the Federal Department of Transportation. The property acquired is pledged as security for the loan.

In 1976, the Authority purchased certain assets of the B&M, including right-of-way, revenue equipment, track and related properties. The cost of \$39.5 million was financed with a \$24,173,000 (8% interest rate) loan from the Federal Department of Transportation secured by the assets purchased, a \$12,262,000 Federal Department of Transportation grant and \$3,065,000 of local funds.

Of the property purchased, right-of-way and yards of \$21,852,000 are not presently in transit use by the Authority and are being held for future expansion.

Both of the Federal Department of Transportation loan agreements provide for the Authority to repay the principal plus accrued interest at the earlier of (a) ten years from date of purchase, (b) the date a grant agreement for actual construction of mass transportation facilities is made, or (c) the date a decision is made not to use the property for mass transportation. The Penn Central agreement also provides that 75% of the principal shall only be payable out of the proceeds from sale of the property, if sold.

In 1980, the Authority recognized forgiveness of principal and accrued interest amounting to \$7,692,000. In accordance with the release, the federal share (80%) of the total forgiveness is reflected as a federal grant with the local share to be contributed from bond funds.

## **10) RETIREMENT PLANS**

The Authority provides pension benefits to employees through a contributory defined-benefit retirement plan. The plan currently requires the payment by the Authority of an amount equal to approximately 2% of the total payroll of the members of the plan. The amount of employee and Authority contributions to the plan is intended to fund normal cost, interest on the unfunded liability and administrative expenses. The Authority is not legally obligated to fund the unfunded actuarial liability which approximated \$177,520,000 and \$166,100,000 as of December 31, 1980 and 1979, respectively, the dates of the latest actuarial valuations.

The plan was amended effective December 7, 1980 to increase the percentage of average compensation used in computing retirement benefits to 1.95%, and to redefine compensation for benefit purposes to exclude overtime pay as determined by the Memorandum of Understanding dated March 6, 1981, between the Authority and the union membership. The effects of these changes for 1981 are not available.

Annual pension expense for the 1981 plan is computed based on a projected benefit method using a compounded annual interest rate of seven percent (six percent in 1980) and a salary increase factor of five and one-half percent (five percent in 1980). The cost of the plan to the Authority was approximately \$18,505,000 and \$19,261,000 for the years ended December 31, 1981 and 1980, respectively. The accumulated plan benefits and plan net assets, determined as of December 31, 1980 and 1979, are as follows:

	<u>1980</u>	<u>1979</u>
Actuarial present value of accumulated plan benefits:		
Vested	\$324,593,000	\$287,545,000
Nonvested	6,588,000	10,686,000
	<u>\$331,181,000</u>	<u>\$298,231,000</u>
net assets available for benefits	<u>\$251,430,000</u>	<u>\$206,415,000</u>

The Authority has also entered into agreements with certain salaried employees to provide supplemental pension benefits after retirement. In order to receive the benefits, the employee must have at least ten years of service and be eligible under the provisions of the contributory retirement plan. At December 31, 1981, approximately 800 employees were either receiving supplemental benefits or will be eligible to receive them upon retirement. Annual expense under this plan is computed based upon an entry age normal method, forty year amortization of unfunded actuarial liability, an annual interest rate assumption of nine percent and a salary increase factor of seven percent compounded annually. The Authority's practice, under this plan, is to provide a reserve for pension costs as they accrue.

Supplemental benefits expense was \$1,110,000 for 1981 and \$1,175,000 for 1980. The accumulated plan benefits and plan reserve as of January 1, 1981 and 1980, the dates of the latest actuarial valuations, are as follows:

	<u>1981</u>	<u>1980</u>
Actuarial present value of accumulated plan benefits:		
Vested	\$6,240,000	\$6,541,000
Nonvested	2,397,000	2,745,000
	<u>\$8,637,000</u>	<u>\$9,286,000</u>
Reserve available for benefits	<u>\$1,907,000</u>	<u>\$1,561,000</u>

The retirement fund benefit, which affects the amount of the supplemental pension benefit, was increased in 1981. This increase reduced prospective benefits under the supplemental pension plan.

Additionally, the Authority is obligated to pay pension benefits to retired employees not eligible for membership to the retirement plan and life and medical insurance costs of retired employees. In 1981 and 1980, the expense to provide these benefits was \$4,723,000 and \$4,042,000, respectively.

#### **(11) PROVISION FOR POWER GENERATING EQUIPMENT**

In 1981, the Board of Directors announced its decision to discontinue steam generation operation at its South Boston Power Station, dismantle the steam-powered boiler generators and sell them. For financial statement purposes, a provision has been made to operations for the cost of the steam generating boilers and their installation, net of an estimate of the proceeds to be received upon their sale.

The cost of the boilers and their installation was 80% funded by the federal government. The Authority intends to use Construction funds to the extent, if any, the government requires repayment of those funds.

**12) SUPPLEMENTARY OPERATING EXPENSE INFORMATION**

Operating expenses classified on a functional basis are as follows:

(\$000 Omitted)

	<u>1981</u>	<u>1980</u>
Vehicle operations		
Wages	\$ 55,862	\$ 60,516
Other	<u>59,967</u>	<u>58,009</u>
	<u>\$115,829</u>	<u>\$118,525</u>
Vehicle maintenance		
Wages	\$ 24,825	\$ 25,369
Other	<u>24,654</u>	<u>25,973</u>
	<u>\$49,479</u>	<u>\$ 51,342</u>
Non-vehicle maintenance		
Wages	\$ 17,899	\$ 17,006
Other	<u>15,143</u>	<u>13,692</u>
	<u>\$ 33,042</u>	<u>\$ 30,698</u>
General administration		
Wages	\$ 16,812	\$ 17,814
Other	<u>25,941</u>	<u>23,487</u>
	<u>\$ 42,753</u>	<u>\$ 41,301</u>
Depreciation and amortization	<u>\$ 31,930</u>	<u>\$ 27,498</u>
	<u>\$273,033</u>	<u>\$269,364</u>





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